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Environmental Assessment

AND

FINDING OF NO SIGNIFICANT IMPACT

F 83-1 (11)31
Condon—North and South
Missoula County, Montana

(Control #1230)

Submitted Pursuant to
49 U.S.C. 4332 (2) (c)

and Sections 2-3-104, 75-1-201, MCA

by the

U.S. Department of Transportation
Federal Highway Administration, Region 8

and the

State of Montana
Department of Transportation
Highways Division – Engineering

SEPTEMBER 1993

Lue

FINDING OF NO SIGNIFICANT IMPACT

FOR

F 83-1(11)31
CONDON - NORTH AND SOUTH

THE FEDERAL HIGHWAY ADMINISTRATION HAS DETERMINED THAT THIS PROJECT WILL NOT HAVE ANY SIGNIFICANT IMPACT ON THE HUMAN ENVIRONMENT. THIS FINDING OF NO SIGNIFICANT IMPACT IS BASED ON THE ATTACHED ENVIRONMENT ASSESSMENT AND INPUT FROM THE LOCATION AND DESIGN PUBLIC HEARING. THIS FINDING HAS BEEN INDEPENDENTLY EVALUATED BY THE FEDERAL HIGHWAY ADMINISTRATION AND DETERMINED TO ADEQUATELY AND ACCURATELY DISCUSS THE ENVIRONMENTAL ISSUES AND IMPACTS OF THE PROPOSED PROJECT AND PROVIDES SUFFICIENT EVIDENCE AND ANALYSIS FOR DETERMINING THAT AN ENVIRONMENTAL IMPACT STATEMENT IS NOT REQUIRED. THE FHWA TAKES FULL RESPONSIBILITY FOR THE ACCURACY, SCOPE AND CONTENT OF THE ATTACHED ENVIRONMENTAL ASSESSMENT.

Federal Highway Administration
Division Administrator

Date 9-28-93

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ADDENDUM TO THE ENVIRONMENTAL ASSESSMENT

1) RESULT OF THE CONSULTATION OVER THE GRIZZLY BEAR HABITAT LINKAGE RECOVERY ZONES

The following section from the Environmental Assessment needed to be modified as a result of consultation between USFWS and MDT and the subsequent Addendum to the Biological Resources Report. The bold text indicates the changed portions of this section.

J. Threatened and Endangered Species and other Wildlife

The US Fish and Wildlife Service was contacted before the biological assessment was prepared by a MDT staff biologist which documents the effects of the proposed project on Threatened and Endangered species. The Biological Assessment can be found in Appendix C. The following is a brief summary of the report on T & E species.

Existing Environment:

An important grizzly bear travel corridor crosses the Swan Valley and Highway 83, connecting the Northern Continental Divide area and the Mission Mountains. The travel corridors connect fragmenting ecosystems and are crucial to the survival of the grizzly bear.

The Swan Valley, located between the Mission Mountains and Swan range, is a prime wintering area for populations of white-tailed deer.

Deer frequently move between Swan river and other portions of the winter range by crossing Highway 83. Deer mortalities caused by vehicle collisions on the highway are high.

Effects of Preferred Alternative

The cumulative effects of this project and the completed Seeley Lake - Inez project and the Lake Inez - North project will be minor. There are no known bald eagle or peregrine falcon nest territories near the project areas. Grizzly bears may occur seasonally in the area. The proposed project is not likely to adversely affect the gray wolf or bald eagle or their critical habitats. The proposed project will not affect the peregrine falcon or it's critical habitat.

The FHWA and MDT consulted informally with the

USFWS over potential impacts on grizzly bears. This process required MDT biologists and USFWS personnel to review the proposed project for opportunities to minimize impacts to grizzlies. The consultation process resulted from recent information from the USFWS identifying grizzly bear habitat linkage zones (GBHLZ) between the Mission and Swan Mountain ranges. The results of the informal consultation process are detailed in the addendum to the Biological Resources Report (BRR) which is also attached to this request for a FONSI.

Briefly summarizing the BRR addendum:

STATUS of grizzlies in project area:
+ The grizzly bear is a threatened species.
+ Grizzlies use the area but their density is low.
+ Data on bears crossing the valley is limited.
+ Recently mapped GBHLZs represent the highest potential for secure crossings.
+ Two GBHLZs are to be crossed on this project.

IMPACTS to grizzlies and habitat:
+ As originally proposed there would have been an additional 16 to 20 feet of clearing on each side resulting in a loss of 15 acres of forested habitat through the linkage zones.
+ Through informal consultation with USFWS, MDT reduced the design speed from 60 to 55 mph resulting in a reduction in the required clearing zone from 40 feet to 24 feet measured from the edge of shoulder stripe. This reduced the habitat loss to less than 3 acres in the linkage zones.
+ After clearing trees in GBHLZs, MDT will replant shrubs to perpetuate and possibly improve the security cover for bears along the highway.
+ Based on implementation of these conservation measures, it is determined the proposed action is not likely to adversely affect the grizzly bear or its habitat.

Clearing improves visibility and should make it easier for motorists to avoid collisions with animals. A seed mixture that produces short grasses not preferred by deer will be used for reseeding.

The proposed action of widening Highway 83 and removing roadside vegetation to create a clear zone will result in white-tailed deer winter range habitat loss. The clearing of an additional 10'-30' either side of the highway does not appear to be significant until the length of the project and cumulative affects are considered. Highway 83, from Clearwater Junction to the north end of the Missoula County Line - North project, is planned for widening and clearing.

The ultimate affect of widening and improving the road on deer-vehicle collision rate is that the rate is likely to remain unchanged or decrease.

Effects of No-Build Alternative
The no-build alternative wouldn't affect threatened or endangered species. There could be more deer hit by cars under this alternative than with the preferred alternative.

2) PUBLIC COMMENTS RECEIVED FROM DISTRIBUTION OF ENVIRONMENTAL ASSESSMENT

The public comments on this project were received before the EA was signed and had already been included in the document. No new comments were received since the EA was signed in February 1993.

3) REVIEW AND DISTRIBUTION OF ENVIRONMENTAL ASSESSMENT

A notice of availability was sent to the those agencies and individuals on the attached list. Copies of the EA were sent to those responding to the notice. No written comments were received as a result of that mailing.

The Forest Service reviewed the EA/FONSI and are in concurrence. Their letter, which is included with this document, comments on a concern that species of shrubs to be planted in the GBHLZs should not be desirable as browse for deer.

DISTRIBUTION LIST
FOR
ENVIRONMENTAL ASSESSMENT

CONDON - NORTH AND SOUTH

For those postcards that were returned from the Condon N & S Notice of Availability letter mailing, a copy of the EA was sent out to:

(Including corrections to the address)

U.S. Fish & Wildlife
Montana Office
Enhancement Division
Mr. Kemper McMaster, Field Supvr.
Federal Building, 301 South Park
Helena, MT 59626 .

Blackfoot Telephone Coop. Inc.
Attn: Rodney B. Morrell
1112 North Russell Street
Missoula, MT 59802

Horace Brown, County Surveyor
Missoula County Courthouse
Missoula, MT 59802

Missoula Electric Coop.
1200 West Broadway
Missoula, MT 59802

County Planning Office
200 W. Broadway
Missoula, MT 59801

Department of Natural Resources
& Conservation
Office of the Director
Attn: Jim Bond
1520 East 6th
Helena, MT 59620 (DEADHEAD)

Montana Historical Society
State Historic Preservation Officer
225 North Roberts Street
Helena, MT 59620 (DEADHEAD)

Department of Fish Wildlife & Parks
Stream Protection Coordinator
1420 East 6th Avenue
Helena, MT 59620 (DEADHEAD)

On March 4, 1993 EA sent to:
Sierra Club
Bitterroot Mission Group
P.O. Box 7315
Missoula, MT 59801
document returned 3-12-93, unclaimed

On March 15, 1993 EA sent to:
US Postmaster
US Post Office
Condon MT 59826

March 24, 1993 EA sent to:
U.S. Fish & Wildlife Service (ES)
1501 - 14th Street West
Suite 230
Billings, MT 59102

ON FEB. 17, 1993 COPIES WERE SENT DIRECTLY TO:

Forest Service	2 copies
EQC	1 COPY
STATE LIBRARY	12 COPIES
STATE CLEARINGHOUSE	1 COPY
CORPS OF ENG.	1 COPY

United States Department of Agriculture

Forest Service
406-755-5401

Flathead National Forest
1935 Third Avenue East
Kalispell, MT 59901

RECEIVED

AUG 12 1993

ENVIRONMENTAL BUREAU

Reply to: 7710/1950

Date: August 6, 1993

FILE COPY

Edrie L. Vinson, Chief
Environmental and Hazardous Waste Bureau
P.O. Box 201001
Helena, MT 59620-1001

Dear Ms. Vinson:

We have reviewed the EA and FONSI for project F83-1(11)31, Condon North and South. Your control #1230.

We are in concurrence with the EA and FONSI.

It is our opinion however that shrubs that will be planted in the GBHLZ's should not be desirable as browse for deer. Of those mentioned on page 4 of the Biological Resource Addendum as possible shrub species, only alder meets this criteria. We suggest you consider ninebark and/or holdiscus discolor (ocean spray) as alternatives.

Sincerely,

JOEL D. HOLTROP
Forest Supervisor

cc: Van Natta
SL

United States Department of the Interior

TAKE PRIDE IN AMERICA

FISH AND WILDLIFE SERVICE
ECOLOGICAL SERVICES
100 N PARK, SUITE 320
HELENA MT 59601

IN REPLY REFER TO

FILE COPY

JUL 12 1993

[illegible]

M. 44 MT. Hwy
(Control #1230)

July 8, 1993

Edrie Vinson, Chief
Environmental & Hazardous Waste Bureau
Montana Department of Transportation
2701 Prospect Avenue
Helena, MT 59620-9726

Dear Ms. Vinson,

This is in response to your letter requesting that the Fish and Wildlife Service (Service) review the Biological Resources Report pertaining to Federally listed threatened and endangered species for the proposed Condon North and South project on Montana Highway 83 in Missoula County, Montana.

The Service has reviewed the Biological Resources Report and concurs with the determination that the proposed project is not likely to adversely affect the endangered bald eagle (Haliaeetus leucocephalus), gray wolf (Canis lupus), peregrine falcon (Falco peregrinus) and threatened grizzly bear (Ursus arctos horribilis). The Service also concurs with the determination that the proposed project is not likely to adversely affect the water Howellia and bull trout. However, we would like to point out that consultation/conference on proposed species is required only when the proposed action is likely to jeopardize the continued existence of any proposed species or result in the destruction or adverse modification of proposed critical habitat (50 CFR S402.10). In addition, the Service does not anticipate any incidental take of listed species as a result of the proposed project. Therefore, pursuant to S402.13 (a) of the 50 CFR, formal consultation is not required. If, after public review and comment, the final project design is changed so as to have effects on threatened or endangered species other than those described in the biological assessment, a revised biological assessment will need to be prepared. The Service will then issue a letter of concurrence/non-concurrence on the revised biological assessment.

We appreciate your efforts to ensure the conservation of these threatened and endangered species as a part of your responsibilities under the Endangered Species Act, as amended.

Sincerely,

Dale Harms

Dale R. Harms
State Supervisor
Montana State Office

RMH/rmh

MONTANA DEPARTMENT OF TRANSPORTATION
Biological Resources Addendum
for

Condon North & South
Project F 83-1(11)31
Control #1230

June 18, 1993

Introduction

A Biological Resources Report (BRR) was prepared for the Condon North & South project in February 1993 that addressed project impacts to bald eagles, grizzly bears, gray wolves, peregrine falcons, water howellia, and other species of wildlife, vegetation, and fish. Subsequent to the preparation of that document and submission to the U.S. Fish and Wildlife Service (USFWS) for review, results of a USFWS study pertaining to grizzly bear habitat linkage areas in the Swan Valley were presented to the Montana Department of Transportation (MDT). In addition, water howellia was proposed for listing as a threatened species by the USFWS on April 16, 1993, and a petition to list bull trout as threatened or endangered was approved for further evaluation by the USFWS on May 17, 1993.

Although the status of bull trout and water howellia has changed since its original preparation, these species were adequately discussed and addressed in the original BRR. A survey was conducted for water howellia within 500 feet of the highway in 1992 by Montane Land Services; no howellia was located, and the project is not likely to adversely affect this species. Long-term (e.g., fish passage) and short term (e.g. construction timing) impacts to bull trout have been reduced to less-than-significant levels through design features and construction timing restrictions developed in consultation with the Montana Department of Fish, Wildlife & Parks (MDFWP), as required under the Stream Protection Act.

The following is a revised biological assessment on the grizzly bear which incorporates new USFWS information. A brief project description is provided below.

Project Description

The project is located on Montana Highway 83 in Missoula County (Figure 1). The project begins at Milepost 31.4, near the boundary between the Flathead National Forest and Lolo National Forest, and extends north for approximately 16.3 miles, ending at the Missoula County Line.

The affected area generally includes the zone within and near the highway ROW along the 16.3 mile stretch. Habitat within the ROW will be directly affected by varying degrees, from complete alteration to limited impact. In some cases, short-term construction related activities will occur outside the ROW.

The proposed project is to widen and overlay the existing 24-foot wide paved road to a 28-foot wide paved surface. The project will include some digouts, replacement and modification of some culverts, flattening and filling of road side slopes, partial filling of wetlands, and clearing of trees and obstacles adjacent to the roadway.

Revised Assessment: Grizzly Bear

Status in the Project Area

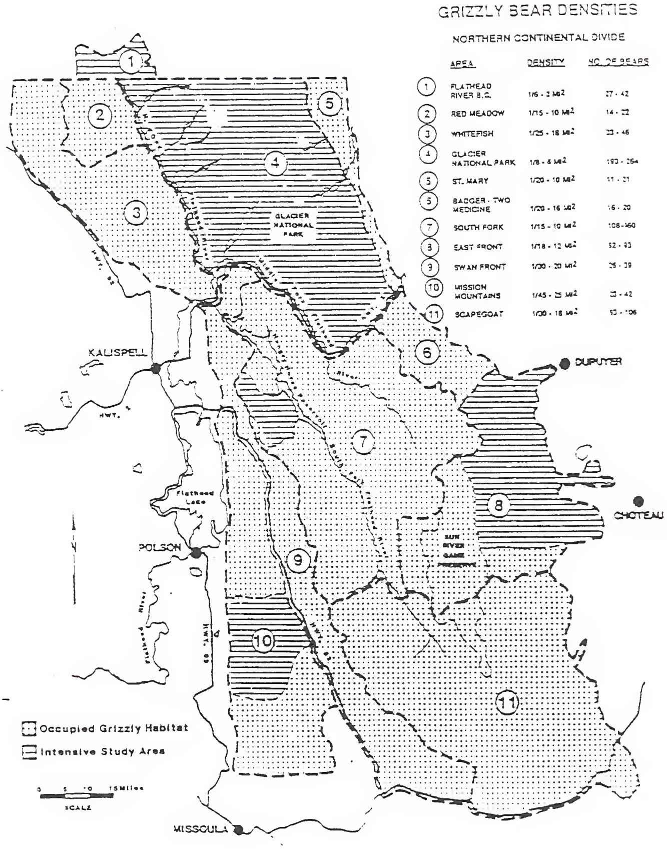
The grizzly bear is listed as a threatened species under the Endangered Species Act. The proposed Highway 83 widening project lies within the Northern Continental Divide Ecosystem (NCDE), one of the designated grizzly bear recovery zones. The U.S. Forest Service (USFS) has designated their lands in this portion of the Swan Valley as Management Situation 1: areas necessary for the survival and recovery of grizzlies (USFS 1985).

Grizzlies have been sighted in the general project area throughout the years, and likely use suitable habitat in the immediate project vicinity (e.g. within 1 to 3 miles of the highway) for travel between more isolated areas, both in the valley and the adjacent Swan and Mission ranges. Although the riparian zone of the nearby Swan River is excellent habitat, the level of human encroachment is substantial and increasing in many areas, drastically reducing grizzly habitat suitability. Due mainly to the amount of human activity in the Swan Valley, high levels of grizzly bear use are not anticipated (Manley pers. comm.). Grizzly use in the valley will likely decrease as more land is developed for rural housing.

Grizzly bear density in the project area is estimated to be relatively low. For purposes of estimating regional grizzly bear densities, the NCDE was divided into 12 "density units" (Montana Department of Fish, Wildlife & Parks [MDFWP] 1986). The proposed project falls within the Swan Front unit, which encompasses 780 square miles between the north end of the Hungary Horse Reservoir and the Clearwater Junction (Figure 2). MDFWP estimates a year-round density of 1 grizzly/30 square miles to 1 bear/20 square miles (26 to 39 grizzlies) in the Swan Front unit, except during denning, which occurs at higher elevations (MDFWP 1986). These figures represent the most current density estimates for this area (Manley pers. comm.).

While it is known that grizzly movement across the Swan Valley (and Highway 83) occurs, the frequency and abundance of these movements is, for the most part, unknown. Past telemetry data from the Mission Density Unit bordering the Swan Front Unit to the west and the South Fork Unit bordering to the east showed that bears in these two units did not use the Swan Valley to any great degree (MDFWP 1986). Consequently, the Swan Front density estimates represent resident bears (MDFWP 1986).

Recent telemetry data from the South Fork grizzly projects has not shown a great deal of cross-valley movement; however, data is limited, as project efforts were not concentrated in the Swan Valley (Manley pers. comm.). In the late 1980's, a male grizzly made several trips from the Bob Marshall Wilderness to the Mission range during the breeding season and again in the fall for two years, after which



GRIZZLY BEAR DENSITIES

NORTHERN CONTINENTAL DIVIDE

	AREA	DENSITY	NO. OF BEARS
①	FLATHEAD RIVER B.C.	1/6 - 3 MI²	27 - 42
②	RED MEADOW	1/15 - 10 MI²	14 - 22
③	WHITEFISH	1/25 - 18 MI²	33 - 46
④	GLACIER NATIONAL PARK	1/8 - 6 MI²	193 - 264
⑤	ST. MARY	1/20 - 10 MI²	11 - 21
⑥	BADGER - TWO MEDICINE	1/20 - 16 MI²	16 - 20
⑦	SOUTH FORK	1/15 - 10 MI²	108 - 160
⑧	EAST FRONT	1/18 - 12 MI²	52 - 93
⑨	SWAN FRONT	1/30 - 20 MI²	25 - 39
⑩	MISSION MOUNTAINS	1/45 - 25 MI²	33 - 42
⑪	SCAPEGOAT	1/30 - 18 MI²	53 - 106

Figure 1. Grizzly bear density estimates in the NCDE [illegible]

curves have been reduced from 62 to 35 feet and from 55 to 31 feet. These measures will reduce the projected loss of forested habitat in GBHLZs from 15 acres to less than 3 acres.

The primary purpose of clear zones is to remove "fixed objects", or potential collision hazards (i.e., large trees, rocks, etc.), from roadsides. While improved visibility may result from the removal of fixed objects, it is not necessarily the primary objective of the clear zone. Consequently, after clearing trees, MDT is proposing to replant portions of the clear zone in GBHLZs with shrubs such as willow, Rocky Mountain maple, alder, and red-osier dogwood. This would allow safety standards to be met, while perpetuating and possibly improving security cover for grizzlies along the highway within the GBHLZs.

Implementation of these two conservation measures (reducing the clear zone to the minimum size specified in the AASHTO Roadside Design Guide, and replanting portions of the clear zone with shrubs) in proposed GBHLZs will reduce project-related impacts to grizzly movement to less-than-significant levels.

It should be mentioned that MDT biologists evaluated the feasibility of constructing bear crossing structures within GBHLZs as part of the Condon North & South project. Based on surrounding topography, vegetation, land use, and road grade, it was determined that the GBHLZs contained no crossing sites with high enough potential to be used regularly by bears or other wildlife. The USFWS has concurred with this conclusion (Hazelwood pers. comm.).

Potential foraging areas, such as riparian zones and wetlands, occur in the project area and are likely used occasionally by grizzlies. The proposed 16.3-mile project will impact approximately 2.8 acres of wetlands, and minor amounts of riparian vegetation immediately adjacent to the existing road. Because of the small quantity and location of habitat altered, and existence of other foraging areas in the project area, this impact is not considered significant.

Mortality. Between 1970 and 1984, four nonhunting grizzly bear kills were reported in the Swan Front density unit of the NCDE along Highway 83 (MDFWP 1986). Three of these occurred in the general project area between Lake Inez and Swan Lake; one occurred northeast of Bigfork. MDT area maintenance personnel do not recall any collision-related grizzly deaths during that period; however, a grizzly cub was hit and killed on Highway 83 north of Condon about 3 to 4 years ago, and there was a second-hand report of a grizzly that was hit and ran off the road within the last few years (Moeller pers. comm.).

Other types of nonhunting mortality which may account for grizzly mortalities in the project area include human defense of life or property, accidental shootings, poaching, or handling deaths (MDFWP 1986). In 1988, for example, a grizzly was shot and killed in the project area when mistaken for a black bear (Manley pers. comm.).

Given the low level of grizzly use along the highway, the proposed project should not significantly alter the likelihood of grizzly/vehicle collisions. Outside of the GBHLZs, increasing the clear zone may provide more opportunity for motorists to see and react to avoid colliding with a bear. Conversely, it could be argued

References Cited in Text

Hazelwood. R. U.S. Fish and Wildlife Service. Helena, MT. Personal communications. November 1991, April 1992, April 1993.

LaFountaine. V. U.S. Forest Service, Bigfork, MT. Personal communication, April 1993.

Moeller, D. Montana Department of Transportation, Kalispell, MT. Personal communication. March 1993.

Manley, T. Montana Department of Fish, Wildlife & Parks, Kalispell, MT. Personal communications, November 1991 and March 1993.

Montana Department of Fish. Wildlife & Parks. 1986. Final programmatic environmental impact statement - the grizzly bear in northwestern Montana. Helena, MT.

Servheen, C. U. S. Fish and Wildlife Service, Missoula, MT. Personal communication, February 1993.

Servheen. C. and P. Sandstrom. In progress. The use of GIS systems, spacial analysis, and landscape technology to assess and manage habitat fragmentation in bear populations. U.S. Fish and Wildlife Service and Montana Cooperative Wildlife Research Unit, University of Montana. Missoula, MT. Maps of proposed grizzly bear habitat linkage zones in the Swan Valley.

U.S. Forest Service. 1985. Flathead National Forest land & resource management plan. Missoula, MT.

ENVIRONMENTAL ASSESSMENT

F 83-1(11)31

CONDON - NORTH AND SOUTH

16.3 MILES
IN

MISSOULA COUNTY

This document is prepared in conformance with MEPA requirements and contains the information required for an Environmental Assessment under the provisions of ARM 18.2.237(2) and 18.2.239. It is also prepared in conformance with NEPA requirements for an Environmental Assessment under 23 CFR 771.119.

Submitted pursuant to 42 U.S.C. 4332(2)(C)
by the

U.S. Department of Transportation
Federal Highway Administration
and
Montana Department of Transportation

Submitted by: ______________ Date: 11-19-92
Montana Department of Transportation
Environmental and Hazardous Waste Bureau

Reviewed and Approved for Distribution: ______________ Date: 2-4-92
Federal Highway Administration
Division Administrator

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APPENDIX A BARNROOF SLOPES

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APPENDIX C BIOLOGICAL REPORT

APPENDIX D SEEDING SPECIAL PROVISIONS

F 83-1(11)31
CONDON - NORTH & SOUTH
ENVIRONMENTAL ASSESSMENT

I. PURPOSE AND NEED FOR PROPOSED ACTION

A. Description

This project is located on Montana Highway 83 (FAP 83) in Missoula County. It will begin at Milepost 31.4 [end of RTF 83-1(10)23, Lake Inez - North] and extend northerly for about 16.3 miles to the Missoula County Line. It's the intent of this project to widen and overlay the existing roadway to a 28-foot wide paved surface. The project will include some digouts, leveling courses and a plant mix overlay with seal and cover. Approach slopes will be brought up to standards through slope flattening and pipe extensions. Surfacing thickness will be a 0.30 foot overlay. Mailbox turnouts will be provided as practical. Roadside fill slopes will be flattened using a barn roof design (see Appendix A) or preferably a 4:1 slope where practical, whichever is narrower. Trees and obstacles will be removed to provide a clear zone of variable width in accordance with the Roadside Design Guide. Existing guardrail will be upgraded to standards.

This project is one of five projects that have been proposed for Highway 83.

▶	Clearwater Junction - North MP 0 to MP 15.5	F 83-1(9)0
▶	Seeley Lake - Inez MP 15.5 to MP 23.1	Completed in 1988
▶	Lake Inez - North MP 23.1 to MP 31.5	F 83-1(10)23 Under construction 1992
-▶	Condon - North & South MP 31.5 to MP 47.8	F 83-1(11)31 **This project**
▶	Missoula County Line - North MP 47.8 to MP 65.1	F 83-2(3)48

This project and the Missoula County Line - North project will involve widening and overlaying the entire length with the removal of trees and obstacles from the clear zone. The other projects will by overlays with clearing. There won't be any cumulative effects from the construction of these projects. The reason is because of the limited and varied clearing pattern set forth in this project. Also, the projects are scheduled for construction during different years. Future projects will also be coordinated with Forest Service representatives in order to satisfy the objectives of each clearing plan as well as securing valuable trees from removal.

B. **Existing Conditions**

The existing highway corridor runs through heavily forested, gently rolling terrain with steep cut and fill slopes. The existing roadway within the project limits was built in 1959 under the Forest Highway Program and presently has a 24-foot wide paved width. The fill slopes are 4:1 and steeper. The maximum existing grade is 6.53%. All but one vertical curve meet 55 mph design standards. The one crest vertical curve meets the minimum stopping sight distance for a 54 mph design speed.

C. **Clearing Plan**

Trees will be removed from the clear zone or five feet past the toe of new fill slopes on State owned right-of-way. The clear zone, rather than being an area of consistent width, will be based on the AASHTO Roadside Design Guide. This plan for clearing is based on a design speed of 60 mph and an average daily traffic of approximately 1650. It would provide a variable clearing width that would depend on the cut or fill slope ratio and the degree of curve.

Clearing that is done in shaded areas will provide sunlight to the roadway during winter months reducing snowpack and ice.

The clearing plan has been field reviewed and agreed to by both MDT and Forest Service representatives.

For "Barn Roof" slopes

See table and typical section in Appendix A.

For fill slopes steeper than 4:1

Straight and inside of curves - (fill height x slope rate) + 40′. Outside of curves - (fill height x slope rate) + distance from table 1.

Table 1 For fill slopes 4:1 or flatter

Degree of Curve	**Percent of Project**	**Minimum Clear Zone[*] Inside**	**Outside**
Less than 2 deg. or Straight	95.1	40′	40′
4°00′	1.8	40′	55′
4°30′	0.8	40′	56′
5°00′	1.0	40′	58′
6°00′	1.3	40′	62′

[*] Measured from edge of driving lane. Clear zone may be greater if catch point is beyond 22′ minimum.

Table 2 For cut slopes

Degree of Curve	Percent of Project	CLEAR ZONE				
		2:1	3:1	4:1	5:1	6:1
Straight and Inside of all Curves	95.1	12	14	18	22	24
4°00′	1.8		19	25	30	33
4°30′	0.8		20	25	31	34
5°00′	1.0		20	26	32	35
6°00′	1.3		22	28	34	37

D. Need

Traffic data is as follows:

1992 ADT = 600 (Present Average Daily Traffic)
1993 ADT = 650 (Letting Date)
2013 ADT = 1650 (Design Year)
DHV = 220 (Design Hourly Volumes)
T = 15.6% (Trucks - Commercial)
All Trucks = 40.0%
RVs = 5.0%
18 Kip EALs= 127.02

A review of the accident data for a six-year period indicates an accident rate of 2.92 accidents per million vehicle miles for this section of roadway. This is higher than the statewide primary average of 2.13. The accident severity rate is 1.42 compared to a state average of 1.51. The accident history for the period January 1, 1979 to December 31, 1986 is as follows: there were a total of 113 accidents, including 29 injury accidents with 42 injuries and 4 fatal accidents with 5 fatalities. Twenty-four percent of all accidents were vehicle-animal collisions compared to 9% statewide averages. Nineteen percent were off-road vehicle collisions with inanimate objects (i.e. trees) compared to 3% average. Forty percent of all accidents were on days with icy/snowy roadway conditions compared to 26% as a statewide average.

There were six accident clusters identified on this project.

MP 33.2 - 33.6
MP 34.6 - 35.4
MP 36.6 - 37.2
MP 38.8 - 39.2
MP 40.5 - 41.7
MP 45.0 - 45.5

No safety recommendations were made for any of these areas.

The existing roadway doesn't meet all current design standards. The standards that will be upgraded by this project are: flattening of fill slopes, widening the road to 28 feet, correcting the superelevation of horizontal curves.

Sideslopes will be flattened to at least 4:1. In areas of a high roadway fill where a 4:1 slope wouldn't be practical, a barn roof slope design would be utilized. This design consists of a 10:1 slope from the edge of the pavement to the edge of the clear zone where the slope changes to a 2:1 (See Appendix A).

The barn roof slope will reduce the width of the road base and construction limits when fill heights are greater than 9 feet which will require less tree clearing or wetland filling.

Additional right-of-way or construction permits will be obtained to allow additional slope flattening, or the applicable road section will be guardrailed.

The surfacing needs improvement to make it better driving and easier to maintain. Currently the surface is very rough due to road patches and rutted, damaged pavement. It's seriously deteriorated to the point where it requires extensive maintenance.

From a safety standpoint, this section of roadway will be improved by the overlay of the riding surface and the widening of the roadway.

Clearing is preferred for safety reasons. The trees closest to the edge of the road are roadside hazards. During winter months, trees cast shadows which contribute to icy conditions. Visibility can also be reduced by trees. In areas where trees crowd the inside of a curve, passing sight distances are reduced.

E. Issues

A Scoping Meeting was held March 4, 1992 in Condon to identify those issues that were important to the public. The meeting was attended by 22 from the public, 8 highway employees, 2 consultants and 1 forest service representative.

Most of the comments related to tree clearing, buffer trees at specific locations, Forest Service policy.

TREE CLEARING COMMENTS

-Will there be an exemption for tree clearing plan on Forest Service land?

A: Yes, some trees can be left within the clear zone. Private land can have exemptions, too. However, safety needs to be satisfied.

-Will trees be marked prior to cutting?

A: The Forest Service and MDT will review the field-staked clearing limits and identify big trees that can be allowed to remain.

-How does the clearing on these jobs compare to the already-constructed Seeley-Inez job?

A: The Seeley-Inez project was cleared to a consistent width of 22 feet from the shoulder. This project will follow a clearing plan that varies. Some areas will be a little less and some will be wider than the Seeley-Inez project.

-Rumble Creek landowner: Buffer trees are important. The pulloff by his yard creates problems - litter left by people stopping. What sizes of culverts will be used?

A: Private landowners will not be overlooked. The pullout by your property will not be replaced. Minimum culvert size on approach roads are 18".

-South of Holland Lake road (MP 35) a fine group of pine trees along highway is a sensitive area.

A: New right-of-way will be required in that area.

OTHER COMMENTS were related to:
> Load capacity of the road
> Width of bridges
> Needs of truckers, tourists and locals

-Will Highway 93 Project result in traffic "routed" through the Swan?

A: We won't move traffic off highway 93 and onto highway 83. However, during construction of highway 93, travelers may choose to travel via 83 to avoid construction delays.

-How wide will Holland Creek structure be?

A: It will be 28 feet. Pipes can be lengthened should a wider road becomes necessary.

-Will MDT buy my sign?

A: Yes, as part of the right-of-way negotiations.

-Bicyclists have been mistakenly accused of demanding a wider road. 28 feet is no problem if the shoulder is striped to leave us 2 feet.Parts of the road are already 28 feet but the white stripe is 14 feet out.

Appendix B contains issues and comments from previous public meetings held for highway 83. The meetings were held on January 10, 1991 and January 31, 1991 during the Lake Inez - North project development.

II. ALTERNATIVES CONSIDERED

Since the existing highway corridor is a long established route effectively serving the local residents as well as tourist traffic, it's felt that there are no location alternatives that would have any advantage over the existing highway corridor for this project.

A. No Build Alternative

One alternative considered for this project was the "no build" or "do nothing" alternative which would leave the roadway in its present condition. This would result in no activities beyond the continued routine maintenance of the existing facility. This alternative wasn't pursued since this wouldn't provide a facility capable of handling the existing or projected traffic volumes, reduce high maintenance costs nor enhance safety for this stretch of roadway.

Effects

This alternative would result in minimal effects to the environment. Not widening the road or flattening slopes would allow the roadside to remain as it exists. Maintenance costs and traffic accidents would remain high.

B. Preferred Alternative

The preferred alternative will widen the road to 28-feet, flatten slopes to 4:1 or by modified barn roof, and remove obstacles from the clear zone. (See description on page 1.)

Effects

The effects of the preferred alternative are expected to be a reduction in accidents related to animals and icy roads. Other effects are examined in Part III, Environmental and Effects. The design techniques that will minimize impacts include guardrailing to avoid wetlands and allowing trees in some locations to remain in place and the use of a modified barn roof slope design that will be used where a 4:1 slope is too wide. These design techniques were a modification to this alternative in response to environmental concerns.

C. **Total Reconstruction**
This alternative would reconstruct the entire roadway to a 36-foot width. Horizontal and vertical alignment would be corrected to current design standards. These same actions that would improve safety would increase the need for additional right-of-way.

Effects
Total reconstruction is estimated to cost about three times as much as the preferred alternative. Also, the project would require more time to complete. Additional clearing and filling of wetlands would cause greater environmental impacts.

D. **Bikepath on Shoulder**
This alternative would combine an additional lane on one of the shoulders of the roadway to accommodate northbound and southbound bicycle traffic. The 8-foot wide lane could be combined with either of the other construction alternatives.

Effects
This alternative would increase the construction limits which would result in greater impacts due to clearing and filling due to slope flattening. Also, the additional cost is estimated to be a 26% increase to the preferred alternative.

E. **Bikepath Separate from Highway**

This alternative would provide an 8-foot wide bikepath off the roadway. The path would accommodate northbound and southbound bicycle traffic and could be added to any of the other construction alternatives.

Effects
The effects of a separated bikepath would be even greater than for the bike lane along the shoulder of the highway. The additional cost for this alternative is estimated to be a 61% increase to the preferred alternative.

Alternatives C, D, and E have been eliminated from further consideration for the following reasons.

- higher additional cost
- greater wetlands impacts

- additional clearing would be required

Also, for Alternatives D and E, the public said that a bikepath is something that could always be added at any time after construction.

III. ENVIRONMENT AND EFFECTS

The project basically involves the upgrading and widening of a deteriorated existing facility to meet current and anticipated travel needs. The relationship between the local short-term uses of man's environment and maintenance and enhancement of long-term productivity has been considered as noted below. There will be some short-term uses of the environment during construction of the project, however, we expect them to be insignificant.

A. Social and Economic

Existing Environment

The area surrounding the highway is mostly privately owned. There is also Plum Creek and Forest Service land. The land is more heavily populated than the Lake Inez stretch to the south with numerous farms, ranches and residences served by the highway.

The highway corridor is used by tourists and visitors to the Glacier Park and Flathead Lake area. Logging companies, Forest Service, and other state agencies use the highway to access adjacent lands. Logging and truck traffic is relatively high.

Effects of Preferred Alternative

The major effect of this project is the improvement of the highway facility. Access to public services and facilities will be improved. All turnouts, including the one at Station 2051+50 which is used as a school bus turnaround, will be paved full width. No residents or businesses will be relocated.

Effect of No-Build Alternative

The existing facility would provide inadequate service of future needs.

B. Land Use

Existing Environment

Current land use within the project limits is for recreation on Forest Service lands and timber cutting on company lands. Clearcut areas adjacent to the highway are evidence of the lands use by timber companies. Some of the land is being used as farmland.

Effects of Preferred Alternative
The major effect of this project is the improvement of the highway facility. Access to public services and facilities will be improved. No residents or businesses will be relocated. Some new right-of-way will be acquired in areas to create a more consistent R/W width.

At station 1271+90 an irrigation syphon will be abandoned in place. Five stockpasses are currently in place and will be addressed as noted below.

MP	stockpass station	type, action
46.2	1275+50	concrete, remove
41.9	1504+90	CMP, perpetuate
35.8	1865+50	concrete, abandon in place
34.0	1920+02	concrete, abandon in place
32.3	2029+00	concrete, abandon in place

Effects of No-Build Alternative
No change in the land use is expected.

C. Floodplain

Existing Environment
The Swan River parallels the roadway corridor. The floodplain of the Swan River has been delineated by approximate methods for the Flood Insurance Program which shows the floodplain to abut the road in one location. It appears that the floodplain is close to the existing roadway near the west end of Section 14, T. 21 N., R. 17 W.

Effects of Preferred Alternative
The road makes transverse encroachments on the floodplains of several small streams ranging in size up to a drainage of 15 square miles. However, there will be no impacts to the Swan River floodplain.

With the scope of work proposed, there will be impacts on the stream floodplains but they will be minimal with channel changes, culvert extensions, etc. The Department of State Lands has not yet designated this portion of the Swan River as navigable so no permit is required for construction encroachments below the low water mark. Since the proposed construction doesn't encroach on the Swan River floodplain, a floodplain permit won't be required from Missoula County.

The Holland Creek bridge will be replaced with two new pipes.

Effects of No-Build Alternative
This alternative would have no effect on floodplains.

D. Water Quality

Existing Environment
The roadway runs parallel to the Swan River and crosses Pierce Creek, Holland Creek, Barber Creek, Buck Creek, Rumble Creek, and Cooney Creek.

Effects of Preferred Alternative
Channel changes will be required at the crossing of Pierce Creek. The culvert at Pierce Creek will be replaced. The new pipe will be put in first and fill slopes will not be placed in flowing channels. Sedimentation will be avoided.

The Holland Creek Bridge replacement project will be incorporated into this project. Some work within the channel will be required for the new pipes at Holland Creek. The new pipes will be on the same alignment as the existing structure and a detour will be built. This will involve placement of fill over the pipes and not in the flowing stream.

Channel changes will be required at the crossing of Barber Creek. The culvert at Barber Creek will be extended and a rock sill will be installed downstream for energy dissipation. Some work within the channel will be necessary to extend the culverts and enhance fish passage.

Culverts will not be extended on Cooney, Rumble and Buck Creeks. Instead, widening will be accommodated by installing a gabion retaining wall in the fill slope above the top of the pipe to facilitate guardrail installation. Buck Creek will not have gabion installed and Cooney Creek will receive guardrail with no culvert extensions or channel changes. Cooney Creek will have a gabion on the outlet only. Rumble Creek will have gabion on the inlet only and will not require a channel change.

Riprap for scour protection at the ends of the Rumble Creek and Cooney Creek crossing will be installed.

The controls of point source pollutants will be implemented under the MPDES. A minor temporary increase in sediment is expected during the actual construction process. The contractor will be required to exercise every reasonable precaution throughout construction to prevent pollution of all waters located in the project vicinity. The contractor will also be required to meet the requirements of the applicable regulations of the Montana Department of Fish, Wildlife and Parks, Department of Health and Environmental Sciences, and other local, state or federal regulations for the prevention or abatement of water pollution. These include the applicable regulations under the Federal Clean Water Act of 1977. The controls of non-point source pollution will be implemented as directed under the Water Quality Act of 1987. This includes following all the permitting requirements and application of the current best management practices as specified in the Montana Environmental Policy Act. There should be no long-term effects on water quality resulting from the project.

E. Fisheries

Existing Environment

The proposed project area encompasses numerous streams that provide habitat for several fish species. Brook trout, bull trout, western cutthroat, whitefish, and minor populations of rainbow trout comprise the major game species present.

Of these species, pure strain westslope cutthroat trout (*Oncorhynchus clarki lewsi*) and bull trout (*Salvelinus confluentus*) are designated as sensitive species on the Flathead National Forest.

Effects of Preferred Alternative

In the Biological Report which was prepared by an MDT biologist, relevant fishery issues are discussed with a creek-by-creek analysis of specific actions and impacts and proposed mitigation measures. The Biological Report is included in Appendix C of this document. The following is a brief summary of the reported potential effects.

All Creeks

Trout fisheries, particularly bull and cutthroat, are extremely sensitive to water quality degradation, such as sediment. All of the creeks crossed by the highway have either westslope cutthroat trout or bull trout. Barber, Pierce, and

Rumble Creeks have cutthroat; Buck Creek has bull trout; Cooney and Holland Creeks have both. Sand from winter road maintenance is a major source of sediment for all creeks.

All crossings were evaluated during the design. MDT has coordinated with FWP on fish passage concerns.

Short term increases in sediment will occur during construction. Impacts to trout spawning will be minimized if construction occurs between July 30 and March 1.

Pierce Creek
The creek runs adjacent to the road for about 100 feet upstream of the culvert crossing. The proposed project would relocate the crossing 191 feet south of the existing crossing replacing the old crossing with a new pipe and rechannel the creek by constructing a new outlet channel.

Fish passage problems will not occur with the culvert at a 0.5% grade. Sedimentation impacts due to sand entering the stream will be reduced by rechanneling.

Holland Creek
The bridge at Holland Creek will be replaced with two culverts; one 14-foot flat bottom culvert and one 6-foot round culvert. The 6′ diameter pipe will be placed adjacent to the creek and will serve as the main channel while the 14′ pipe is installed and the bridge removed. When in place, Holland Creek flows will be split between the two culverts.

The proposed project includes several actions to alleviate potential negative impacts to fisheries. The suggested work window for installing the Holland Creek pipes is between July 30 and August 31. The culverts will be installed on the stream grade and buried into the streambed. To provide fish resting pools, angular boulders will be placed approximately every 12′ in the larger culvert. A rock sill will be placed below the outlet to maintain reduced velocities for fish passage. With the proposed measures, impacts upon cutthroat, bull trout, and other fisheries should be minimal.

Barber Creek
Unlike Holland Creek, Barber experiences flashy, high energy flows, especially during spring run-off. Two sediment sources, road sands and stream bank erosion, are currently degrading water quality. Road sands are entering the stream due to

the parallel alignment of the road and channel for approximately 200'. Soil erosion is occurring where the water exits the culvert and hits the unvegetated opposite bank. The existing culvert does not appear to be a fish passage problem.

The current proposal is to extend the outlet end of the existing culvert, riprap the outlet, and move the channel on both sides to accommodate road widening. The pipe extensions will have square ends to prevent road sand from entering the creek.

Extension of the culvert should not pose fish passage problems. Road sands will be less of a source of sediment. Barnroof slopes on both sides and channel changes will reduce sanding material sedimentation. Stream banks immediately downstream are unstable. Riprapping the outside bank at the culvert outlet will help alleviate local bank erosion.

Culvert designs were modified to reduce the amount of sand directly entering the creek.

Buck Creek
The culvert at Buck Creek has excellent fish passage and no changes are proposed for this crossing. A gabion retaining wall will be installed in the fill slope above the top of the pipe inlet to allow for guardrail installation.

Rumble Creek
Currently fish passage problems exist due the difference in elevation of the waters surface and the culvert outlet and excessive culvert velocities. The proposal is to not change the culvert length. Baffles will be fitted into the culvert and the water level at the outlet will be raised to restore fish passage. A gabion retaining wall to be installed in the fill slope above the pipe inlet will allow for guardrail installation.

MDT and MDFWP have agreed to hire a professional fish passage analyst to design and certify a plan that would ensure spring and fall fish passage at the Rumble Creek culvert. Under the agreement, MDT will adopt and build the consultants plan if all parties agree it is feasible.

Cooney Creek
Currently, fish passage is difficult. The distance from the pipe outlet to the pool beneath is great enough to appear to cause difficulty. The proposed

action is not to extend the culvert. Outlet stabilization in the form of riprapping is proposed.

Maintaining a fish barrier (the culvert) was requested by MDFWP because it is suspected that a pure strain of westslope cutthroat exist upstream. Fish passage will continue to be restricted.

F. Air Quality

Existing Environment
The project is not located in an air quality non-attainment area.

Effects of Preferred Alternative
Air quality impacts after construction will consist mainly of exhaust emissions from motor vehicles, which will increase regardless of the new construction. The improved traffic flow provided by this project will tend to offset the potential increase in exhaust emissions which would therefore have a long-term beneficial effect on air quality.

The project is not in conflict with the State's Implementation Plan for achieving National Ambient Air Quality Standards.

G. Historical and Archaeological

Existing Environment
Four historic sites were located during the cultural resources survey of this project.

Effects
This project doesn't affect any historical or archaeological sites. None of the sites appear to be eligible for listing on the National Register of Historic Places(NRHP). However, a house on one of the sites (24M092) may have potential for listing on the NRHP. The house is about 111 feet from the highway and won't be affected by this project. If sites are found during construction, the MDT will comply with 36 CFR 800 dealing with late discovery of archaeological sites.

H. Wetlands

Existing Environment
A total of 33 wetland areas are present along the project including numerous small wetland areas at pipe crossings.

Effects of Preferred Alternative
There will be approximately 2.88 acres of wetlands that will be filled by the construction of this project. As mitigation, wetlands will be constructed off-site since no opportunities are present on site. A Wetland Finding was prepared (see Appendix C) and documents the steps to preserve wetlands of this project.

Pipe extensions and slope flattening will take place in the vicinity of wetlands at MP 34.8, 41, 47, and Holland Creek. Other wetland areas may be either avoided by using guardrail or minimally impacted by using a reduced barn roof slope design. If it's determined that there is no practicable alternative to the proposed construction in the above wetland-type areas then the proposed construction will include all practicable measures to minimize harm to wetlands, in compliance with the Interagency Memorandum of Understanding.

As mitigation for the 2.88 acres of unavoidable wetland impacts, wetlands will be constructed off-site since no opportunities are present on site. The feasibility of constructing new wetland off-site near the Scotty Brown Bridge was investigated with Powell County. The 14 acres that will be created just south of the Scotty Brown Bridge would replace the lost values associated with this project.

I. Scenic Quality

Existing Environment
The impacts of tree clearing are primarily visual. The Highway 83 corridor is a scenic area that is unique in that it's one of the few non-park highways where old trees grow so close to the road. The Highway 83 corridor contains unique visual resources which include views of old growth larch and ponderosa pine timber stands, several lakes, and two scenic mountain ranges. Large trees greater than 20 inches in diameter are visible at several locations.

The popularity of Highway 83 as a scenic drive is shown by its inclusion on a list of favorite roads. The list was the result of a nationwide survey by Farmers Insurance Group and appeared in its Spring 1991 publication of "Friendly Exchange."

Effects of Preferred Alternative
Under this project, trees would be cleared to the clear zone in accordance with the Roadside Design

Guide. No trees will be cut behind the guardrail (there will be 1,888 feet of new guardrail along this project). The exact number of trees to be cleared is not known. However, the roadside has been field reviewed by MDT and FS representatives in order to visualize the extent of the clearing.

Existing scenic viewing turnouts will be perpetuated and are located at Stations:
1201+25 (MP 47.7) left and right
1775+25 (MP 36.8) right
1943+00 (MP 33.6) left and right
2051+50 (MP 31.6) left *

* will be upgraded with surfacing gravel and paved full width.

New scenic turnouts will be built at the following stations:
Station
1288+50 - 1289+00 RT
1424+50 - 1425+50 RT
1455+75 - 1456+75 LT
1628+00 - 1629+00 RT
1712+75 - 1713+75 LT
1713+00 - 1714+00 RT
1776+00 - 1777+00 LT
1882+00 - 1883+00 LT
1883+50(MP 34.8) LT
1943+00(MP 33.6) LT
2000+00 - 2001+00 RT

All new turnouts will be finished with surfacing gravel and paved full width.

Effects of No-Build Alternative

Under this alternative the clear zone would remain as it exists.

J. Threatened and Endangered Species and other Wildlife

The US Fish and Wildlife Service was contacted before the biological assessment was prepared by a MDT staff biologist which documents the effects of the proposed project on Threatened and Endangered species. The Biological Assessment can be found in Appendix C. The following is a brief summary of the report on T & E species.

Existing Environment:

An important grizzly bear travel corridor crosses the Swan Valley and Highway 83, connecting the Northern Continental Divide area and the Mission Mountains. The travel corridors connect fragmenting ecosystems and are crucial to the survival of the grizzly bear.

The Swan Valley, located between the Mission Mountains and Swan range, is a prime wintering area for populations of white-tailed deer.

Deer frequently move between Swan river and other portions of the winter range by crossing Highway 83. Deer mortalities caused by vehicle collisions on the highway are high.

Effects of Preferred Alternative
The cumulative effects of this project and the completed Seeley Lake - Inez project and the Lake Inez - North project will be minor. There are no known bald eagle or peregrine falcon nest territories near the project areas. Grizzly bears may occur seasonally in the area. **The proposed project is not likely to adversely effect the gray wolf or bald eagle or their critical habitats. The proposed project will not effect the peregrine falcon or it's critical habitat.**

The USFWS has recommended that the FHWA initiate formal consultation over the potential impacts on grizzly bears. This process will require MDT biologists and USFWS personnel to review the proposed project for opportunities to minimize impacts to grizzlies. The consultation process results from recent information about grizzly bear migration between the Mission and Swan Mountain ranges. The results of the formal consultation process will be included in the final document for this project.

One of the reasons for clearing is that the improved visibility should make it easier for motorists to avoid collisions with animals. A seed mixture that produces short grasses not preferred by deer will be used for reseeding.

The proposed action of widening Highway 83 and removing roadside vegetation to create a clear zone will result in white-tailed winter range habitat loss. Exact acreage of winter range loss is not available until design and construction plans are finalized. The clearing of an additional 10'-30' either side of the highway does not appear to be significant until the length of the project and cumulative affects are considered. Highway 83, from Clearwater Junction to the north end of the Missoula County Line - North project, is planned for widening and clearing.

The ultimate affect of widening and improving the road on deer-vehicle collision rate is that the rate is likely to remain unchanged or decrease.

Effects of No-Build Alternative
The no-build alternative wouldn't effect threatened or endangered species. There could be more deer hit by cars under this alternative than with the preferred alternative.

K. Rare Plants

The Biological Report, which is included in Appendix C, lists rare or sensitive plant species that could occur in the area. The following is a summary of that report.

Existing Environment
Four species, *Grindelia howellii, Howellia aquatilis, Dryopteris cristata*, and *Ophioglossum vulgatum,* are known to occur in close proximity to the project area.

A review of the occurrence and likelihood of occurrence of rare, sensitive or unique species in their habitats was conducted during 1992. This review revealed no occurrences of such plants within the current or proposed right-of-way. An extremely sensitive plant, *Howellia aquatilis,* is likely to become a candidate for federal listing as a threatened species. MDT considered *Howellia* as a federally threatened species during the completion of the impact analysis. No *Howellia aquatilis* was found within 500 feet of the existing road.

Effects of Preferred Alternative
Because the proposed project will impact some wetlands and riparian communities, and because of the high density of species occurrence, it is possible that rare and sensitive plants could be impacted either directly or indirectly. However, since no rare or sensitive plants were observed in the wetland and riparian areas, no direct effects are anticipated.

Effects on hydrologic ecosystems often extend beyond the limits of direct impact. As no significant changes in the hydrologic regime are anticipated, and erosion control measures will be in place during construction, offsite rare plant communities will not be effected. Therefore, indirect effects are not expected.

Howellia aquatilis will not be effected.

L. Tourism and Recreation

Existing Environment

Currently the highway provides access to two developed campgrounds. Both are four miles away from the highway; one at Holland Lake and one at Lindbergh Lake. Turnouts are provided at four locations for scenic and wildlife viewing.

Effects of Preferred Alternative

This project won't effect any of the existing areas mentioned above. The main effect this project will have is to provide a wider and smoother roadway that will better accommodate RV traffic.

Effects of No-Build Alternative

Under this alternative, the roadway conditions would remain as they exist.

M. Noise

A traffic noise assessment has been completed for this project. Traffic noise levels calculated for the Present Year (1991) and the Design Year (2011) using existing and projected traffic volumes indicate that noise levels won't increase substantially over existing levels.

N. Construction

A temporary increase in air pollution due to dust and fumes is expected as a result of construction operations. The contractor will be required to adhere to all federal, state and local regulations to minimize this pollution. Air quality permits will be obtained from the State Air Quality Bureau for asphalt plants and crushers. Dust will be controlled by watering or other acceptable methods.

There will be an increase in noise levels during the actual construction process. This will be temporary and should occur only for the duration of construction activities.

Since the new roadway will follow the existing alignment, it will be necessary to maintain traffic on the highway during the construction period. This will disrupt the area and cause some traffic delay; however, this will be short lived and last only as long as it takes to complete the necessary work. A traffic control plan will be developed to minimize inconvenience to motorists during construction.

O. Irreversible and Irretrievable Commitments of Resources

No resources other than money, labor and roadbuilding materials will be irretrievably committed to this project. The removal of the "Big Trees" within the clear zone could also be considered an irretrievable commitment of a resource since there is a lack of adequate replacements for the existing "Big Trees". However, some clearing will allow more sunlight to other trees, encouraging replacement trees to grow.

P. Hazardous Waste

The potential for hazardous waste sites being exposed along the project was reviewed and not found to exist. The project will be accomplished primarily within the existing right-of-way and is not adjacent to any suspect businesses or operations such as landfills, dumps, service stations, chemical manufacturing facilities, etc. If a hazardous waste site is uncovered during construction, then a contingency plan will be followed as suggested by the AASHTO Task Force on Hazardous Wastes in their "Hazardous Waste Guideline for Project Development." There are no EPA superfund sites along the project.

Q. Seeding Plan

The proposed seeding special provisions are attached to this document and can be found in appendix D. The seeding mix was chosen to produce low maintenance grasses and was reviewed by the Forest Service.

IV. COMMENTS AND COORDINATION

There is considerable correspondence on file with the Department of Transportation documenting our coordination with other federal, state, and local officials. This correspondence is available for review at the Helena office. Among those agencies that were contacted and supplied information for this document are: Montana Department of Fish Wildlife & Parks, U.S. Fish & Wildlife Service, U.S. Forest Service and the Montana Natural Heritage Program.

An Informational/Scoping Public Hearing was held on March 4, 1992. This meeting was intended to inform the residents and other public on the general design of the project and also to gather comments and identify issues important to residents and other users.

A Location and Design Public Hearing will be held on the project to solicit comments from the public. If appropriate, following receipt of these comments, the

Department of Transportation will prepare a separate document recommending a "Finding of No Significant Impact" (FONSI) for the project. This will incorporate this Environmental Assessment and any other appropriate environmental information.

Formal coordination with the Forest Service began in 1990 and has resulted in a mutual participation during the revision of this NEPA document. This document was prepared with help from the following individuals:

Ron Van Natta	Forest Service
Edrie Vinson	Montana Department of Transportation
Barry Brosten	Montana Department of Transportation
Lisa Fairman	Montana Department of Transportation
Jeff Berglund	Montana Department of Transportation

BCB:Q:ENV:3.si

THE BARN ROOF SLOPE APPENDIX A

The clear zone on the Barnroof Design extends to the slope break between the 10:1 and the 2:1 slopes. The 2:1 slope is not considered to be part of the clear zone however clearing must be done to construct the slopes. Selected trees in sensitive locations can be saved if they are on the 2:1 slope.

On slopes 4:1 or flatter, the clear zone will extend down the slope for the minimum distance as indicated on the table for fill slopes. The clear zone can end on the slope if the catch point distance is greater than the specified clearzone distance.

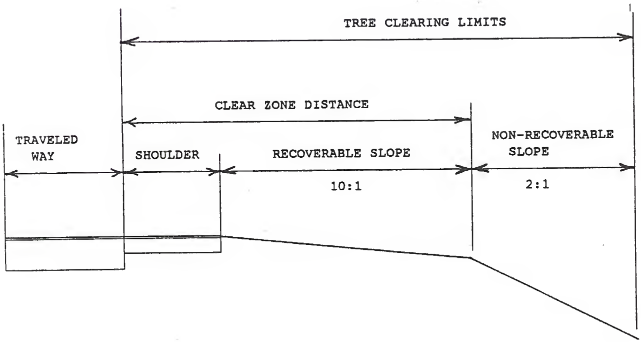
On steeper slopes (non-recoverable), the clear zone would not end on the slope. Instead, that portion of the clear zone that falls upon the steep slope must be added on at the point where a recoverable slope (4:1 or flatter) is encountered.

For barnroof slopes

Degree of Curve	Percent of Project	CLEAR ZONE*	
		10:1	
Straight and Inside of all Curves	81.6	16	
2°00′	4.6	18	
2°30′	0.9	19	
3°00′	2.0	20	
4°00′	2.2	21	
4°30′	0.8	21	
5°00′	1.6	22	
6°00′	2.1	23	
6°30′	0.4	24	
7°00′	3.8	24	

* measured from edge of pavement

THE "BARN ROOF" SLOPE



Issues

An informational hearing was held on January 31, 1991 in the Seeley Lake Community Hall. The meeting was held prior to Lake Inez - North project but was intended for anyone interested in any of the upcoming highway 83 projects. Forty-six people attended. Throughout the audience participation period, many comments and questions focused on the differences in quality, durability, costs, and safety between the overlay and reconstruction with great concern over the time when the project could begin. Most were hoping the project could begin in 1991.

Of those expressing an opinion at the hearing:

- 2 were for the overlay only
- 3 were for more safety; overlay & flatten curves
- 4 were for reconstruction, but would settle for widening with overlay and curve reconstruction.

Most didn't feel that a bikepath was vital and thought it could be addressed later.

Twenty-two (22) letters and comment sheets were received:

- 7 were for overlay and minimal clearing
- 9 were for overlay, curve flattening, and clearing
- 3 were for reconstruction, but said overlay and curve flattening would help
- 3 were for reconstruction as best long-term solution

On January 10, 1991 a public forum was sponsored by the Scenic Highway 83 Association. The meeting, hosted by Al Cluck, was well attended.

The public comment ranged from the concern for safety to the need to maintain the scenic qualities. The general attitude of the group was that it was important to save both lives and trees.

Scenic 83 is concerned with these issues:

1) Maintaining a safe and adequate driving surface.
2) Maintaining the scenic qualities along the corridor, as well as the distant vistas.
3) Saving the last big ponderosa and western larch trees wherever possible.
4) Reducing auto/animal collisions.
5) Establishing a sign system.
6) Finding solutions to power line problems, while preserving large trees and scenery.
7) Maintaining grizzly bear and other wildlife corridors.
8) Providing for tourism opportunities like pullouts and rest areas.
9) Cooperating and communicating with land managers, the Highway Department, utilities, and the public to maintain the scenic qualities of the valley and Highway 83, while providing for safety.
10) Providing a forum for public involvement on issues concerning Highway 83.

APPENDIX C

MONTANA DEPARTMENT OF TRANSPORTATION
Biological Resources Report
for

Condon North & South
Project F 83-1(11)31
Control #1230

February 1, 1993

EXECUTIVE SUMMARY

The primary intent of the proposed joint Montana Department of Transportation (MDT) and Federal Highway Administration (FHWA) project is to widen and overlay 16.3 miles of Highway 83 south of the Missoula County Line. The project crosses 7 fisheries streams, and measures are being coordinated with the Montana Department of Fish, Wildlife & Parks (MDFWP) through the Stream Protection Act (124) permitting process to ensure that impacts to these streams are held to less-than-significant levels. A rare and sensitive plant survey conducted within and adjacent to the proposed and existing right-of-way (ROW) revealed no occurrences of such plants in the affected area. A reconnaissance survey for potential bog lemming (a sensitive species) habitat revealed the presence of such habitat; however, the habitat would not be directly affected by construction. The project is not likely to adversely affect rare or sensitive plants, wildlife, or fish. The project crosses important white-tailed deer winter range; the amount of deer/vehicle collisions is likely to remain at current levels, or may slightly decrease with improved sight distance afforded by the increased clear zone. It is the determination of this analysis that, if the required coordination measures are adhered to, the project is not likely to adversely affect the bald eagle, gray wolf, or grizzly bear; no effects on the peregrine falcon are anticipated. Thirty three wetlands occur in the project area; approximately 2.9 acres of wetlands would be directly affected by the project. An individual Section 404 permit may be required by the Corps of Engineers (COE) for this project. Onsite wetland mitigation opportunities appear limited; the proposed Scotty Brown Bridge cooperative wetland site at the Blackfoot River is under consideration as mitigation for this project. The following coordination measures are required:

- o Prior to the onset of construction, the project manager shall contact an MDT biologist to assess the overall status of nesting bald eagles in the project area. Spacial and/or temporal restrictions may be implemented at bald eagle nests established in the project area prior to construction.
- o The location of construction-related activities, such as staging, batch plant, and borrow/gravel source activities, must be reviewed by an MDT biologist prior to construction.
- o The contractor shall complete all instream work, including modification of streambanks, within the following work windows required by MDFWP: Pierce, Barber, Rumble, and Cooney Creeks - July 30 to March 1; Holland and "No Name" (Station 1605+35) Creeks - July 30 to August 31. Any proposed deviation from these windows will require approval from MDT and MDFWP.

Several recommendations pertaining to biological resources are included in the body of this report. Additional Special Provisions regarding stream crossings and erosion control will be addressed during the 124 permitting process, the wetlands permitting process, and in the erosion control plan to be prepared by the contractor.

PROJECT DESCRIPTION

The project is located on Montana Highway 83 in Missoula County (Figure 1). The project begins at Milepost 31.4, near the boundary between the Flathead National Forest and Lolo National Forest, and extends north for approximately 16.3 miles, ending at the Missoula County Line.

General Description. The project area is located in the Swan Valley, bordered by the Bob Marshall Wilderness and the Swan Mountain Range to the east and the Mission Mountains and wilderness area to the west. The Swan River occurs within a mile (west) of Highway 83 for the length of the project.

Habitats found within or near the right-of-way include various successional stages of coniferous forests; from recent clear cuts to mature/over mature stands. Areas of wetlands, riparian communities, pasture lands, and open gramminoid/shrub/forb communities are also present. Narrow strips of forests along portions of the project provide visual screenings and buffers from timber management activities and private residences.

Numerous wildlife species inhabit the project area. Big game species present include mule and white-tailed deer, elk, moose, and black bear (MDFWP 1991). However, most of these species are relatively common in the area and occur occasionally within the highway ROW while enroute to preferred habitats in the valley. Consequently, general wildlife species in the area are not discussed in detail in this report. Important white-tailed deer winter range, however, occurs immediately adjacent to the project and is discussed below.

White-Tailed Deer. The Swan Valley, located between the Mission Mountains and Swan range, is a prime wintering area for populations of white-tailed deer. The importance of mature dense forest as white-tailed deer winter habitat has been well documented. In addition to providing essential thermal cover, the dense foliage of these stands intercepts snowfall, allowing easier and less stressful movement for deer.

Land use activities in the area have substantially reduced the mature forest component of local white-tailed winter range. In several areas, deer heavily use the forested buffers near and along the highway; presumably because similar habitat in the valley has been reduced.

Deer frequently move between the Swan River and other portions of the winter range by crossing Highway 83. Deer mortalities caused by vehicle collisions on the highway are high; several theories for this high amount of deer-vehicle collisions are offered:

o The highway dissects key deer habitat, limiting the route of travel for deer to the highway.

o Icy road conditions reduce drivers' response times and reduce ability of deer to move quickly.

o Deer suddenly jump up from borrow ditches and onto the highway, leaving little reaction time for motorists.

o Forest cover extends to near edge of the highway, preventing drivers from seeing deer and reducing motorist reaction times.

Impacts. Due to the narrow corridor (10 to 30 feet on each side of the highway) and location of the habitat that would be affected, impacts to general vegetation and wildlife habitat in the project area resulting from the

- Explore the possibility of acquiring land and conservation easements to replace mature forest loss by Highway 83 expansion.
- Explore the possibility of initiating a deer reflector test site on Highway 83 that would yield quantifiable and statistically valid results to aid in determining if the use of deer reflectors should be considered as a viable means to reduce deer/vehicle collisions.

While none of these can completely eliminate impacts, they may help to reduce the negative effects.

Rare & Sensitive Species. A review of the occurrence and likelihood of occurrence of rare, sensitive or unique species in their habitats was conducted. Species considered for review included those on the USFS - Region One Sensitive and Watch Species List - 1991 and those considered "endangered", "sensitive" or "watch" species by the Montana Natural Heritage Program.

Plants. A high density of sensitive and rare plant species occur in some unique ecosystems in the Swan Valley (MNHP 1991). Wet areas, such as fens and glacier pothole ponds, support many of these species.

Table 1 displays the rare and sensitive species that occur or may occur in the general project area. Four species, *Grindelia howellii, Howellia aquatilis, Dryopteris cristata*, and *Ophioglossum vulgatum,* have been known to occur in close proximity to the project area.

A rare and sensitive plant survey conducted by Montana Land Service in 1992 revealed no occurrences of such plants within the current or proposed ROW (Chaffee 1992). Additionally, no *Howellia aquatilis* was observed within 500 feet of the existing road. This species is further discussed under Threatened and Endangered Species. The absence of rare plants may have resulted from disturbances along the highway corridor due to logging, heavy grazing, irrigation structures and diversion construction (Chaffee 1992).

Impacts. The proposed project will impact some wetlands and riparian communities. However, as no rare or sensitive plants were observed in these areas, no direct impacts to these species are anticipated. It is possible that rare and sensitive plants could be impacted indirectly, as effects on hydrologic ecosystems often extend beyond the limits of direct impact. As no significant changes to the hydrologic regime are anticipated, however, and erosion control measures will be in place during construction, no significant impacts to "offsite" rare and sensitive plant communities are expected.

Flammulated Owl. Little is known of the status and ecology of flammulated owls in Montana. The owl, a cavity nester, is thought to be associated with old growth ponderosa pine forests.

The proposed project area will impact scattered individual large ponderosa pines that occur in the proposed clear zone, but is not expected to significantly alter the mature or "old growth" component of adjacent stands. Therefore, the proposed project is not expected to significantly affect the flammulated owl or its habitat.

Common Loon. The common loon is a water bird that requires a secluded lake usually larger than 10 acres. The proposed project is not adjacent to nor is it expected to cause disturbance to lakes or bodies of water that provide suitable loon habitat. The closest lakes that would provide suitable habitats are Pierce Lake, 0.5 miles from project and Holland Lake, 2.0 miles from project. The proposed projects should not affect the common loon or its habitat.

Harlequin Duck. The harlequin duck is a sea bird that migrates inland to fast flowing mountain streams to hatch and raise their young. Surveys for harlequins on creeks in the project area are scarce. No sightings have been noted. Based on habitat use in western Montana, the creeks in the project area probably do not provide nesting/rearing habitat but may serve as migratory streams. The expected impacts to streams, assuming they are temporary and minor in nature, are not likely to adversely affect migrating harlequins.

Lynx. The lynx is a seclusive animal usually living in the high elevations of boreal and montane forests. Suitable habitat for the lynx is not found in or adjacent to the project area. Therefore, project will not affect the lynx.

Fisher. Little is known of fisher ecology in the Swan Valley. In general, the summer range of fishers consists of mature to old growth forest to young forest stands. Riparian vegetation appears to be used year round. Fishers are thought to be sensitive to habitat fragmentation and dissection.

The project crosses eight streams. Four of these crossings will result in minor losses of riparian vegetation immediately adjacent to the highway. Due to the relatively low quality and small amount of affected habitat, impacts to fishers are determined to be less then significant; the project is not likely to adversely affect this species..

Boreal Owl. Boreal owls are cavity nesters usually found in mature and old growth forests higher than 5000' in elevation. The Swan Valley highway is at 4200' or less. While it is surmised that boreals occur in secluded high elevational areas, it is possible that boreals could occur in the mature forests along the Swan Highway periodically. Some direct reduction of mature forests will occur adjacent to the highway; however, significant impacts to boreal owls are not anticipated.

Townsend's Big-Eared Bat. Western big-eared bats have been found in a wide variety of habitats, from arid juniper/pine communities to high elevational coniferous forests. Caves or tunnels are the primary roost sites for nesting and winter hibernation. The bats are also known to use dead trees.

highway parallels streams, and near drainages or other indirect sources.

- Square cut and extend culvert tops away from slopes, where possible.
- Examine sanding and snow maintenance program. One suggestion may be to allow vegetation near and adjacent to culverts and stream crossing to grow rather than cutting it to ground level.

The current fisheries situation for each stream in the project area is outlined below. Expected impacts to fisheries and a discussion of mitigation or alternative practices follows.

Pierce Creek

Current Situation. Because Pierce Creek was recently identified as a westslope cutthroat fishery, little fishery or habitat information is available. Upstream migration of spawners does occur. The current 54" concrete pipe does not appear to pose fish passage problems. The Pierce Creek channel appears fairly stable as Holland Lake probably absorbs the majority of spring runoff. The present location of Pierce Creek is likely the result of moving it for the original construction of Highway 83.

The creek runs adjacent to the highway for approximately 100' on the east, or upstream, side and then is directed through a culvert under the highway. A meander is adjacent to the highway on the downstream side. Bordering spruce and douglas-fir forests provide cover and large woody debris recruitment, components important to stream and fishery systems. Riparian and wetland habitat occurs along the stream and is prominent in the meander area.

Sand from winter road maintenance is a major sediment source, degrading water quality and stream habitat.

Proposal and Impacts. As requested by MDFWP, rather than extending the existing 54" round concrete pipe (RCP), a new 30" diameter corrugated steel pipe (CSP) will be installed approximately 191 feet to the south at station 2019+28. The new culvert inlet will match the existing channel grade and will be installed at 0.5% slope.

A new 4 foot-wide section of channel will be excavated to approximately 100 feet from the new culvert outlet, where it will connect to an existing remnant channel. The remnant channel will be excavated to a depth of about 1 foot for approximately 80 feet to the north, where it will connect to a more established channel. A July 30th to March 1st work window is proposed to minimize impacts to spawning activities.

Installation of the new culvert as described above is likely to guarantee fish passage. Relocating the creek from running parallel to the highway would eliminate a major sediment source of road sands.

occurring where the water exits the culvert and hits the opposite bank. The existing culvert does not appear to be a fish passage problem.

Proposal and Impacts. The existing 60" RCP will be extended in place. The last section of pipe at the outlet end will be removed and relayed before extending with the new pipe to correct the joint separation. The channel within approximately 150 feet of the inlet and outlet will be moved about 10 to 20 feet to accommodate road widening. A July 30th to March 1st work window is proposed to minimize impacts to spawning activities.

The downstream banks will be sloped at 2:1 and will contain embankment protection and construction fabric along the entire length to where the channel bends west out of the right-of-way. The inside upstream bank will also contain embankment protection and construction fabric. A rock sill will be installed approximately 25 feet downstream of the new culvert outlet extension for energy dissipation. Re-channelized banks above and below the culvert will be revegetated with shrubs behind the embankment protection to facilitate bank stabilization and provide fish cover.

To decrease impacts of sedimentation, culvert ends will be square, rather than bevel cut. Barnroof slopes on both sides of the road will also reduce stream sedimentation.

Extension of the culvert should not pose fish passage problems. Riprapping the outside bank at the culvert outlet will help alleviate that site specific bank erosion.

Short term water quality degradation will occur during rechanneling and culvert extension. However, provided work windows are adhered to, such impacts should not be significant.

Buck Creek

Current Situation. Primary fisheries in Buck Creek include bull, brook and a small population of rainbow trout. A side pool, near the inlet of the culvert, provides an effective resting pool for the fish that do navigate the culvert. Similar to the other creeks, a sedimentation problem is present. Sedimentation primarily results from winter road maintenance and the bevel cuts on the culvert. Minor bank erosion was observed, apparently from the recent stream crossing by U.S. SPRINT, Inc. This erosion source appears to be short term.

Proposal and Impacts. Rather than extending the culvert as originally proposed, the current proposal is to install guardrail on each side of the roadway. The existing pool at the culvert outlet would be preserved; no culvert extensions or channel changes would occur at this crossing. No seasonal construction restrictions are proposed.

No significant impacts to fisheries are anticipated at this creek.

"No Name" Creek

Cooney Creek experiences similar sedimentation problems and sources as the other creeks.

Proposal and Impacts. The Cooney Creek culvert will remain as is with guardrail installed at each side of the roadway. The special provisions include Class II riprap at the culvert for scour protection and prevention of fish passage. The existing gabion structure at the outlet pool will be removed to further discourage fish passage.

Class I riprap will be keyed into the fill slope around the culvert outlet to prevent erosion and support the new roadway widening fill slope. A gabion retaining wall will be installed in the fill slope above the top of the pipe outlet to facilitate guardrail installation. A July 30th to March 1st work window is proposed to minimize impacts to spawning activities.

With the current proposal, fish passage will continue to be restricted. Sedimentation sources near the culvert outlet will be addressed and will likely be reduced. Road maintenance sedimentation and downstream bank erosion may continue to be a problem.

Summary of Required Instream Work Windows. The following stream work windows have been established in cooperation with MDFWP and are required:

o The contractor shall complete all instream work, including modification of streambanks, within the following work windows required by MDFWP: Pierce, Barber, Rumble, and Cooney Creeks - July 30 to March 1; Holland and "No Name" (Station 1605+35) Creeks - July 30 to August 31. Any proposed deviation from these windows will require approval from MDT and MDFWP.

Rare and Sensitive Species. As stated previously, pure strain westslope cutthroat trout and bull trout are designated as sensitive species on the Flathead National Forest. Based on the preceding discussions on each of the streams, and on the required work windows, it is determined that the project is not likely to adversely affect westslpoe cutthroat or bull trout.

Threatened and Endangered Species

Under Section 7 of the Endangered Species Act of 1973, as amended, activities authorized, funded or conducted by federal agencies must be reviewed for their effects upon federally listed threatened or endangered species.

Correspondence with the federal Fish and Wildlife Service (Appendix B) indicated that four Federally-listed endangered or threatened species occur or may occur within the project area: the bald eagle (*Haliaeetus leucocephalus*), peregrine falcon (*Falco peregrinus*), grizzly bear (*Ursus arctos horribilis*), and gray wolf (*Canis lupus*). Howellia aquitilus, a Category 1 candidate species for listing as threatened or endangered, is also addressed in this section.

Bald eagle. Bald eagles and their habitat are afforded protection under several state and federal laws, including the Endangered Species Act, Eagle Protection are likely to be higher, there by reducing reaction times. Additionally, icy road conditions in winter will prevail.

The current problem of eagle-vehicle collisions warrant actions to reduce or eliminate the mortality threats. Placement of signs warning motorists that eagles may be in the road may elevate awareness levels, slow travel speeds, and reduce eagle collisions. However, thefts of such unique road signs, as commonly occurs in other parts of the state, may limit the effectiveness of such a measure.

Conservation Measures

1. Required: Prior to the onset of construction, the project manager shall contact an MDT biologist to assess the overall status of nesting bald eagles in the project area. Spacial and/or temporal restrictions may be implemented at bald eagle nests established in the project area prior to construction.

2. Required: The location of construction-related activities, such as staging, batch plant, and borrow/gravel source activities, in the project area must br reviewed from an MDT biologist prior to construction.

Determination of Effects. Based on the above information and required coordination measures, it is determined that implementation of the proposed action is not likely to adversely affect the bald eagle or its critical habitat.

Peregrine falcon. Peregrine falcons are not known to reside in or near the project area. Potential nesting habitat exists along the Swan front, well beyond the effects of the proposed project. No active hacking programs are occurring in the area, and the proposed project will not take any suitable peregrine falcon nesting habitat.

Transient or migratory birds may occasionally occur in the project vicinity. Potential habitat for migrating falcons in the area primarily occurs in wetlands. Construction during spring and fall may temporarily disturb peregrines foraging over wetlands or pastures. However, it is anticipated that few, if any, peregrines would be displaced during construction. Additionally, similar habitat is abundant in the immediate vicinity and would provide ample habitat for displaced birds. Therefore, impacts to migrating peregrines resulting from construction of the project are considered to be less than significant.

Determination of Effects. Based on the above information, it is determined that implementation of the proposed action will not affect the peregrine falcon or its critical habitat.

Grizzly Bear. The grizzly bear is listed as a threatened species under the Endangered Species Act. The proposed Highway 83 widening project lies within the Northern Continental Divide Ecosystem, one of the designated grizzly bear recovery zones. The U.S. Forest Service has designated their lands in this portion of the Swan Valley as Management Situation 1: areas necessary for the survival and recovery of grizzlies (USFS 1985).

Determination of Effects. Based on the above information, it is determined that implementation of the proposed action is not likely to adversely affect the grizzly bear or its critical habitat.

Gray Wolf. The endangered wolf is most likely to occur in the project area as an incidental or dispersing animal; sporadic sightings have occurred in the general area. No known packs exist in the Swan Valley, although pack establishment in the Bob Marshall complex or Mission Mountains is possible.

Wolf management and recovery is tied to maintaining healthy prey (ungulate) populations and availability of security cover (USFWS 1987).

The proposed action of widening Highway 83 near Condon is not likely to significantly reduce prey bases for wolves. Additionally, affects upon security cover are expected to be minimal and less than significant.

Cumulatively, when considering impacts of the current as well as future Highway 83 projects and adjacent land management activities, the effects of deer winter range loss may be measurable. For this reason, the following conservation measure is recommended.

Conservation Measures

1. Recommended: Cumulative losses of white-tailed winter range along the Highway 83 corridor should be determined, and the possibility of obtaining land or conservation easements to replace lost habitat should be explored. This conservation measure could be combined with land acquisition/easements for grizzly corridors.

Determination of Effects. Based on the above information, it is determined that implementation of the proposed action is not likely to adversely affect the gray wolf or its critical habitat.

Water Howellia. Water howellia is currently classified as a Category 1 candidate species for federal listing as threatened or endangered. Category 1 candidates are those species for which the USFWS has substantial information on hand to support the biological appropriateness for proposing to list as endangered or threatened.

This species has been petitioned by the USFWS for listing as a threatened species; the petition is currently under review (Nordstrom pers. comm.). As it is likely that water howellia will soon be listed, it was analyzed in this section of the report.

Water howellia is an annual species that occurs in shallow water on the edges of glacial pothole ponds and sloughs where water is present in spring, but dries by late summer (Reel et al. 1989). The Swan Valley supports the only known populations of this species in Montana.

A survey for Water howellia was conducted by Montane Land Service during the 1992 growing season in suitable habitat (e.g., wetlands) within 500 feet of the existing centerline. No howellia was observed during these surveys (Chaffee

For purposes of analysis, wetlands were primarily categorized according to the USFWS wetlands classification system (Cowardin 1979). Four primary categories were employed: Palustrine emergent (PEM), Palustrine emergent - wet meadow (PEMW), Palustrine scrub-shrub/Palustrine emergent (PSS/PEM), and Palustrine forested/Palustrine scrub-shrub/Palustrine emergent (PFO/PSS/PEM).

Approximately 2.88 acres of wetlands would be filled by the proposed project. Wetland impacts would result from widening the existing road surface, slope flattening, and realignment of the existing centerline. Impact acreage is presented for each wetland in Table 2, and is further discussed in the following paragraphs.

PEM wetlands in the project area are typically dominated by cattails, sedges, and rushes. These sites range from the typical "roadside ditch" to large, productive systems such as Wetland 16, a 1- to 2-acre cattail-dominated marsh (see attached COE data sheet). Wetland 30, a sedge and moss-dominated system, is another high-quality PEM wetland. Wetland 30 provides potential habitat for the northern bog lemming, a sensitive species (see previous discussion), but will not be disturbed by construction.

While some of these PEM wetlands have an open water component, many of the sites in this category are small, isolated roadside ditches or swales which provide limited wildlife habitat value and no value for fish. Wetlands 1, 2, 3, 6, 9, 10, 11, 14, 15, 16, 17, 18, 21, 22, 23, and 27 have been classified as PEM wetlands. Approximately 1 acre of PEM wetlands would be directly affected by the proposed action (Table 2).

The PEM category was further refined to differentiate between the typical emergent marsh areas discussed above and emergent wet meadows primarily dominated by wet grasses (PEMW). Two wetlands have been classified as PEMW in the project area: Wetlands 26 and 33. Wetland 26 is a large reed canarygrass/manna grass/sedge meadow that is currently grazed. Wetland 33 is a similar meadow system that is also grazed, and may be adjacent to Holland Creek several hundred feet east of the highway ROW. Approximately 0.2 acres of Wetland 33 and 0.15 acres of Wetland 26 would be filled by construction activities (Table 2).

PSS/PEM wetlands are typically dominated by willow, red-osier dogwood, alder, hawthorn, and quaking aspen interspersed with areas of cattails, sedges, rushes, and wet grasses. Many of these sites are associated with streams, such as Wetlands 4 (Rumble Creek), 5 ("No Name" Creek), 8 (Barber Creek) and 31 and 32 (Holland Creek). While some PSS/PEM wetlands are similar to the roadside ditches discussed above, many contain high degrees of habitat complexity, providing habitat for a diversity of wildlife and fish species. Rumble, Barber, and Holland Creeks contain westslope cutthroat trout; Holland Creek also contains bull trout. Each of these are USFS-listed sensitive species. In addition to the five previously listed wetlands, PSS/PEM wetlands include sites 7, 12, 13, 19, 20, 24, and 25. Aproximately 1 acre of PSS/PEM wetlands would be directly affected by construction (Table 2).

Wetlands 28 and 29, associated with Pierce Creek, are the only PFO/PSS/PEM wetlands in the project area. These are dominated by mature cottonwoods, alder,

TABLE 2 - APPROXIMATE WETLAND LOCATIONS AND PROJECTED IMPACTS: CONDON NORTH AND SOUTH

SITE	STATION (approx.)	LEFT OR RIGHT	LENGTH	AVERAGE WIDTH	ACRES AFFECTED	COMMENTS
1	1213+30-1213+75	R	45′	10′	0.0011	Adjacent to shoulder
2*	1212+60-1213+50	L	90′	15′	0.0358	Adjacent to shoulder
3**	1528+00-1533+06	L	506′	15′	0.0920	Center portion narrow channel east of R/W fence
4*	1564+00-1565+50	L	150′	>100′	0.0176	Adjacent to shoulder & Rumble Creek
5*	1605+10-1607+00	L	190′	>100′	0.1981	Adjacent to shoulder & "No Name" Creek
6*	1707+70-1708+50	L	80′	>50′	0.0506	Adjacent to shoulder & culvert
7*	1717+50-1721+30	L	380′	20′	0.2575	Adjacent to shoulder & Barber Creek
8*	1717+75-1718+30	R	55′	>50′	0.0403	Adjacent to shoulder & Barber Creek
9*	1774+50-1774+60	L	10′	>50′	0.0109	Adjacent to shoulder at culvert
10*	1774+50-1774+60	R	10′	>50′	0.0108	Adjacent to shoulder at culvert
11	1779+80-1781+24	L	124′	30′	0.0571	Adjacent to shoulder
12	1788+00-1795+00	L	750′	>50′	0.0023	Adjacent to shoulder
13	1787+30-1795+00	R	770′	>50′	0.2487	Adjacent to shoulder

SITE	STATION (approx.)	LEFT OR RIGHT	LENGTH	AVERAGE WIDTH	ACRES AFFECTED	COMMENTS
14*	1846+00-1847+80	R	180′	35′	0.0441	Adjacent to shoulder; narrows at south end
15	1847+50-1849+00	L	150′	40′	0.0	Adjacent to shoulder
16	1850+10-1851+93	R	183′	>50′	0.1069	Adjacent to shoulder
17	1858+80-1860+57	R	177′	20′	0.0918	Adjacent to shoulder
18	1862+80-1863+91	R	111′	40′	0.0787	Adjacent to shoulder
19*	1898+60-1899+20	L	60′	>100′	0.0	Adjacent to shoulder
20**	1899+90-1902+22	R	212′	20′	0.1186	Adjacent to shoulder; narrows to ditch in center
21	1905+70-1906+06	R	36′	25′	0.0076	Adjacent to shoulder
22**	1930+50-1936+54	L	604′	15′	0.0944	Adjacent to shoulder
23**	1930+50-1936+60	R	610′	15′	0.3001	Adjacent to shoulder
24	1944+10-1945+08	L	98′	>100′	0.0242	Adjacent to shoulder
25	1944+20-1945+10	R	90′	>100′	0.0382	Adjacent to shoulder
26*	1960+40-1963+70	R	330′	>100′	0.1461	Starts about 10′ west of current R/W fence
27	2006+10-2007+22	R	212′	15′	0.0445	Adjacent to shoulder
28*	2015+75-2021+50	R	575′	>100′	0.3828	Adjacent to shoulder; contains scattered upland "islands"

SITE	STATION (approx.)	LEFT OR RIGHT	LENGTH	AVERAGE WIDTH	ACRES AFFECTED	COMMENTS
29*	2018+00-2019+25	L	125'	20'	0.0720	Follows Pierce Creek channel
30*	2046+40-2051+40	L	500'	>100'	0.0	Adjacent to toe of shoulder and turnout
31*	1841+00-1841+60	L	60'	>100'	0.0388	Adjacent to Holland Creek
32*	1840+90-1841+30	R	40'	20'	0.0388	Adjacent to Holland Creek
33*	1877+25-1885+00	L	775'	>100'	0.2317	Large wet meadow intermittently adjacent to R/W
	TOTAL Estimated Impact				2.8821	

*Added or **modified since original Wetlands Finding

JB:Q:ENV:65.dlw

REFERENCES AND PERSONAL COMMUNICATIONS

Chaffee, G.B. 1992. Rare and sensitive plant survey of the proposed Condon North and South and Missoula County Line projects along Montana Highway 83. Prepared for the Montana Department of Transportation. Montane Land Service. Clancy, MT. 5p.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. Office of Biological Services, U.S.D.I Fish and Wildlife Service. Washington, D.C.

Hazelwood, R. U.S. Fish and Wildlife Service, Helena, MT. Personal communications, November 1991 and April 1992.

Interagency Grizzly Bear Committee. 1987. Grizzly bear compendium. National Wildlife Federation. Washington D.C.

LaFountain, V. U.S. Forest Service, Bigfork, MT. Personal communication, November 1991.

Mace R. and T. Manley. 1990. South Fork Flathead River grizzly project - two-year program review. Montana Department of Fish, Wildlife & Parks. Kalispell, MT. 41p.

Manley, T. Montana Department of Fish, Wildlife & Parks, Kalispell, MT. Personal communication, November 1991.

Montana Bald Eagle Working Group. 1986. Montana Bald Eagle Management Plan. Billings, MT. 61p.

Montana Department of Fish, Wildlife & Parks. 1986. Final programmatic environmental impact statement - the grizzly bear in northwestern Montana. Helena, MT.

Montana Department of Fish, Wildlife & Parks. 1991. October 1, 1991 letter to Montana Department of Highways regarding the Condon North and South project. Kalispell, MT.

Montana Department of Fish, Wildlife, & Parks. 1988. The Montana rivers information system. Helena, Montana.

Montana Natural Heritage Program. 1991. Printout of sensitive species occurences in the vicinity of the Condon North & South project. Helena, Montana.

Nordstrom, L. U.S. Fish and Wildlife Service, Helena, MT. Personal communication, October 1992.

Reed, P.B. 1988. National list of plant species that occur in wetlands: Northwest (Region 9). U.S. Fish and Wildlife Service. Washington, D.C. 89p.

Gary
Lisa

United States Department of the Interior

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:

FISH AND WILDLIFE SERVICE
FISH AND WILDLIFE ENHANCEMENT
FEDERAL BUILDING, US COURTHOUSE
301 S PARK
P O BOX 10023
HELENA MT 59626

Date Recd. Preconst. 10/9/91
MAIL ROUTE /
Initial Attach Info Act
30 Precont Engr
30 Assistant
30 Office Mgr
32 Safety Mgmt.
32 Road Design
33 Environment
34 Hydraulics
35 Survey & Mapping
36 Traffic Eng.
37 Traffic Operations
39 Consultant Des.

October 8, 1991

Ms. Edrie L. Vinson
Montana Department of Highways
2701 Prospect Avenue
Helena, Montana 59620

Dear Ms. Vinson:

This responds to your September 12, 1991 letter concerning Montana Department of Highways Project No. F83-1(11) 31, Condon - North and South (Control No. 1230) and requesting identification of the threatened and endangered species that should be considered in connection with this project. Your letter also invited other comments we may have.

The Federally-listed endangered and threatened species which occur or may occur within the project area are the bald eagle (Haliaeetus leucocephalus), and peregrine falcon (Falco peregrinus) and the grizzly bear (Ursus arctos horribilis) and gray wolf (Canis lupus). Pursuant to Section 7 of the Endangered Species Act of 1973, as amended, the Federal Highway Administration, as the responsible Federal agency, must determine if the proposed actions may affect these endangered species. If you or the Federal Highway Administration determine that any of these species may be affected, it will be necessary to initiate formal consultation with this office. The following information and recommendations may aid you in that determination.

Both peregrine falcons and bald eagles may occur in the area as spring and/or fall migrants, and bald eagles may occur as winter residents. We are not aware of peregrine falcon or bald eagle nest territories in or near the project area. While we do not foresee any substantive issues with the proposed project with regard to the bald eagle and peregrine falcon, any power lines in the vicinity, if not properly constructed, could pose electrocution hazards for these species. To conserve these species and other large raptors protected by Federal law, we urge that any power lines that may need to be modified or reconstructed as a result of the project be raptor-proofed following the criteria and techniques outlined in the Raptor Research Report No. 4, **"Suggested Practices for Raptor Protection on Power Lines - The State of the Art in 1981"**.

A copy may be obtained from:

Jim Fitzpatrick, Treasurer
Raptor Research Foundation
Carpenter St. Croix Nature Center
12805 St. Croix Trail
Hastings, Minnesota 55033.

The Scope of Work Report accompanying your September 12 letter indicated that wetlands would likely be impacted by the project. In this regard, we assume a wetland inventory and impact assessment has or will be completed in accordance with the 1989, "Interagency Memorandum of Understanding: Management and Mitigation of Highway Construction Impacts to Wetlands in the State of Montana". We urge completion of any needed wetland mitigation in full accordance with that Memorandum of Understanding.

We appreciate your efforts to consider and conserve fish and wildlife resources, including threatened and endangered species. If you have questions regarding this letter, please contact Mr. Rob Hazlewood of our Helena Office (406) 449-5225.

Sincerely,

Robert M. Hazlewood

for Dale R. Harms
State Supervisor
Montana State Office

JGW/ndg

CONDON.LTR

cc: Suboffice Coordinator, USFWS, Fish & Wildlife Enhancement (Billings, MT)
Rob Hazlewood, USFWS, Fish & Wildlife Enhancement (Helena, MT)

"TAKE PRIDE IN AMERICA"

Forestry & Resource
Consultant Services

MONTANE LAND SERVICE
George B. Chaffee
Consultant

Box 361, Lump Gulch Rt.
Clancy, MT 59634

406-933-5565

RARE AND SENSITIVE PLANT SURVEY OF THE PROPOSED CONDON NORTH AND SOUTH (F83-1(11)31) MISSOULA COUNTY LINE NORTH (F83-2(3)48) PROJECTS ALONG MONTANA HIGHWAY 83

Prepared for the
Montana Department of Transportation

By
George B. Chaffee
Resource Consultant

August 31, 1992

Forestry & Resource
Consultant Services

MONTANE LAND SERVICE
George B. Chaffee
Consultant

Box 361, Lump Gulch Rt
Clancy, MT 59634

406-933-5565

August 31, 1991

To: Jeff Berglund, Environmental Biologist

From: George B. Chaffee, Resource Consultant

Subject: Rare and Sensitive Plant Survey of the Proposed Condon North & South and Missoula County Line North along Montana Highway 83

In accordance with the Montana Department of Transportation Contract Agreement terms and requirements, I have personally conducted a comprehensive field survey and prepared a report covering the above captioned project name.

Please find enclosed four copies of the report for your review and comment. If you have any questions, please contact me.

Sincerely,

George B Chaffee

George B. Chaffee
Resource Consultant

GBC:cc
Enc.

METHODS

Literature Review

A Rare and Sensitive Plant Survey for the proposed highway projects - Condon North & South and Missoula County Line North - began with a review of occurrence records of the designated plant species at the Montana Natural Heritage (MNH) Program office in Helena. Records of previous findings of Howellia Aquatilis (Water Howellia), Grindelia Howellii (Howell's Gum-Weed), Dryopteris Cristata (Buckler Fern), and Ophioglossum Vulgatum (Adder's Tongue) were examined relative to site location, description, occurrence data and observation date in the Swan Valley.

Subsequent to review of rare plant occurrence records at the MNH, a visit was made to the herbarium at the University of Montana. The purpose of this activity was threefold: (1) study the key characteristics of each mounted plant species of the principal rare species; (2) identify and correlate rare plant species findings at the herbarium with those of the MNH observations within or in near proximity to Highway 83 corridor; and (3) to examine rare herbarium plants recorded from the Point Pleasant Fen located adjacent to Highway 83 on the Missoula County Line North project.

Point Pleasant Fen rare plant occurrence include the following: Carex Livida (Pale Sedge), Eriophorum Viridicarnatum (Green-Keeled Cottonsedge), Eleocharis Rostellata (Beaked Spikerush), Cypripedium Calceolus Var Parviflorum (Small Yellow Lady's Slipper) and Cypripedium Passerinum (Sparrow's-Egg Lady's Slipper).

One fauna species, Ascaphus Truei (Tailed Frog) was included on the search list of rare species in the Swan Valley. Dave Genter of the MNH was interviewed concerning the probable habitat and location of the tailed frog in the Swan Valley.

Interviews with knowledgeable botanists, such as Steve Shelly, US Forest Service regional office, were made to gain background on the characteristics and location of rare plants in the Swan Valley.

Field Survey

A reconnaissance survey was initially conducted along Highway 83 on the Condon North & South and Missoula County Line North Projects. This survey was made to identify wetland sites, various types of plant associations and habitat types where rare plant species were known to exist in the Swan Valley ecosystem.

Subsequent to the reconnaissance survey, site specific areas, i.e., open wetlands and mesic forest types,were surveyed. A system of traversing was employed through each potential site within and adjacent to Highway 83 right-of-way areas based on the designated feet noted on road construction plans for that area's right-of-way. In wetland areas where Howellia Aquatilis might be found, a 500 foot area from the centerline of the highway was examined. The walk through traverse covered nearly 100 percent of each candidate site in search of the specified rare plant species in the two project areas covering an estimated 32 mile corridor.

RESULTS

The survey commenced at the south end of the Condon North & South project near Pierce Creek. The project ended at the north end of the Missoula County Line North project near Mile Post 65 close to State Meadows.

The wetlands habitat were examined for Howellia Aquatilis, Dryopteris Cristata and Ophioglossum Vulgatum. Each wetland habitat, i.e., ponds, marshes, fens, creeks and subirrigated sites, within and immediately adjacent to the highway right-of-way was traversed and examined for the occurrence of designated rare and sensitive plants.

Previous occurrence sites of rare and sensitive species, particularly Howellia Aquatilis, recorded by MNH personnel were carefully examined within the Highway 83 corridor. None of the rare plant species for wetland sites were observed in the corridor survey. The absence of these rare plants may have been effected by disturbances along the highway corridor due to logging, heavy grazing or irrigation structures and diversion construction.

Grindelia Howellii is a rare plant characterized as a dry meadow/ open forestland species. This plant is often found in moderately disturbed sites due to grazing or in partial logged areas. Examination of previous occurrence sites along Highway 83, however, failed to reveal the presence of Grindelia Howellii or on other habitat types similar to the occurrence sites.

Previous occurrence sites examined on this survey included: Holland-Pierce Creek, Rumble Creek and near Lindberg Lake Road. No presence of Grindelia Howellii was noted within or adjacent to the highway right-of-way. Previous occurrence sites in 1984-86 presently show heavy densities of Spotted Knapweed in the right-of-way zones.

Point Pleasant Fen

This unique wetland habitat represents an eleven acre undisturbed fen that lies opposite the Point Pleasant Campground sign on the east side of Highway 83. Some of the rare species previously listed for the Point Pleasant Fen were identified during this survey. These include: Carex Livida, Eleocharis Rostellata and Eriophorum Viridicarnatum. Cypripedium Calceolus Var Parviflorum and Cypripedium Passerinum were not located during this survey. Failure to locate these Lady's Slippers is attributed to late season phenology (dry with past flower bloom) and it is very probable these two Cypripedium species are present in the dense canopy of Engleman Spruce/Birch/Salix/Equistum vegetative association.

The probability of impact on these species due to the proposed action, highway reconstruction, is not clear. It is contended, however, that any construction activity within or adjacent to the Point Pleasant Fen would be destructive to the habitat of the wetland bog and the forest/shrubland margin where five rare plant species are known to thrive. The affect of construction to the biodiversity of the Fen and marginal habitat is estimated to be high. Avoiding construction on the east side of the highway (west border of the Fen) is recommended as the best mitigation measure to alleviate any disturbance to the rare plant communities within and adjacent to the open Fen. Our survey showed the average distance from the highway edge to the border of the Fen wetland to be 82 feet, with some areas being only 48 feet from the highway edge.

Site data collected at the Point Pleasant Fen is shown for each species of special concern.

One animal species, Ascaphus Truei, was included in the project as a possible candidate rare invertebrate species to be found in the Swan Valley corridor. Early reports of the incidence of tailed frogs on Dog Creek were investigated on this survey. No sign of tailed frogs were noted at this site.

Other frog habitat sites were examined along the project corridor, but survey results showed no sightings of the tailed frog.

SUMMARY

A comprehensive field survey was made to determine the presence of rare and sensitive plants and one fauna along Montana Highway 83: Condon North & South (16.3 miles) and Missoula County Line North (17.4 miles).

The priority plant species of special concern was Howellia Aquatilis, which has a potential status as a Federally listed threatened species. Associated plant species included in this survey are: Grindelia Howellii, a terrestrial often found in disturbed, semi-open Ponderosa Pine associations; Dryopteris Cristata, a wetland species previously reported on the east shore of Summit Lake (not located in project area) and Ophioglossum Vulgatum, a wetland species.

After a thorough search in the Swan Valley corridor along Highway 83 project areas, none of the designated rare and sensitive plants were found. The presence of five rare plants in the Point Pleasant Fen on the Missoula County Line North project area is discussed relative to potential impact from proposed highway construction activities.

Site Basic Record
POINT PLEASANT FEN

SWAN RIVER VALLEY, EAST SIDE OF HWY 83 ACROSS FROM POINT PLEASANT CAMPGROUND, CA. 7 MILES SOUTH OF SWAN LAKE (TOWN).

CALCAREOUS FEN AT BASE OF WEST ASPECT SLOPE SURROUNDED BY PICEA ENGELMANNII/EQUISETUM ARVENSE FOREST.

COUNTY: LAKE
USGS QUADRANGLE: CILLY CREEK

TOWNSHIP-RANGE: 024N017W SECTION: 19
QUARTER/ADDITIONAL SECTIONS: SE4

BOUNDING RECTANGLE: S: 471903N N: 474918N E: 1134932W W: 1134942W

BOUNDARY JUSTIFICATION: THE SITE INCLUDES UNFORESTED FEN AND A FRINGE OF WET FOREST SUPPORTING SIGNIFICANT POPULATIONS OF FIVE RARE SPECIES.

APPROXIMATE ACREAGE: 11.00

COMMENTS: WATER SOURCE FOR SITE IS NOT CLEAR; MAY BE TO THE SOUTH AND SOUTHEAST IN SECTION 30.

GENERAL RATING: 2
PROTECTS S1 AND S2 SPECIES.

BIODIVERSITY SIGNIFICANCE: B3
CONCENTRATION OF S1 AND S2 SPECIES, BUT SMALL SITE.

OTHER VALUES:

PROTECTION URGENCY: P2
SOME TIMBER HARVESTING IMMEDIATELY SOUTHEAST OF SITE. SOME TALK OF WIDENING THE HIGHWAY CORRIDOR.

MANAGEMENT URGENCY: M5

CONSERVATION INTENT:

DESIGNATION:

PROTECTION COMMENTS:

LAND USE: HYDROLOGIC SOURCES FOR THIS FEN NEED TO BE PROTECTED. NOT CLEAR CURRENTLY WHERE THESE ARE.

NATURAL HAZARDS:

EXOTICS:

OFF-SITE LAND USES: LOGGING OF ADJACENT AREA MAY AFFECT HYDROLOGIC SOURCES FOR FEN.

INFORMATION NEEDS: NEED TO DETERMINE HYDROLOGIC SOURCES FOR FEN.

MANAGEMENT NEEDS:

MANAGEMENT COMMENTS: SITE IS WITHIN SWAN RIVER STATE FOREST.

ELEMENT OCCURRENCE INFORMATION:

NAME:	COMMON NAME:	GRANK:	SRANK:
CAREX LIVIDA	PALE SEDGE	G5	S2
ELEOCHARIS ROSTELLATA	BEAKED SPIKERUSH	G5	S2
ERIOPHORUM VIRIDICARINATUM	GREEN-KEELED COTTONSEDGE	G5	S1
CYPRIPEDIUM CALCEOLUS VAR PARVIFLORUM	SMALL YELLOW LADY'S-SLIPPER	G5Q	S2
CYPRIPEDIUM PASSERINUM	SPARROW'S-EGG LADY'S-SLIPPER	G4G5	S2

OWNERSHIP/MANAGEMENT: SWAN RIVER STATE FOREST

July 31, 1992

MONTANA NATURAL HERITAGE PROGRAM
Species of Special Concern: Point Pleasant Fen

Scientific Name: CAREX LIVIDA
Common Name: PALE SEDGE

Global rank: G5 Forest Service status: SENSITIVE
State rank: S2 Federal Status:

Element occurrence code: PMCYP037L0.009
Element occurrence type:

Survey site name: POINT PLEASANT FEN
EO rank: B
EO rank comments: LARGE, UNDISTURBED FEN; HIGHWAY NEAR WEST BORDER.

County: LAKE

USGS quadrangle: CILLY CREEK

Township 024N, Range 017W, Section 19 Precision: S
Township-range comments: SW4SE4,SE4SW4

Survey date: 1989-07-07
First observation: 1989
Last observation: 1989-07-07

Elevation: 3200
Slope/aspect: LEVEL
Size (acres): 2

Location:
SWAN RIVER VALLEY, EAST SIDE OF STATE HWY. 83, OPPOSITE (NORTHEAST OF) POINT PLEASANT CAMPGROUND, CA. 1.1 MILES SOUTH OF SOUP CREEK.

Element occurrence data:
LARGE COLONIES, SPREADING VEGETATIVELY; OBSERVED ONLY IN SOUTH-CENTRAL PART OF FEN.

General site description:
IN LARGE FEN, SATURATED SUBSTRATE; WITH CAREX BUXBAUMII, CAREX LASIOCARPA, LOBELIA KALMII.

Land owner/manager:
SWAN RIVER STATE FOREST

Comments:
VOUCHER - SHELLY, J.S. (1570), 1989, MONTU.

Information source:
SHELLY, J.S. 1989. FIELD SURVEYS IN SWAN RIVER VALLEY, LAKE AND MISSOULA COUNTIES, OF 5-7 AND 11-14 JULY.

July 31, 1992

MONTANA NATURAL HERITAGE PROGRAM
Species of Special Concern: Point Pleasant Fen

Scientific Name: ERIOPHORUM VIRIDICARINATUM
Common Name: GREEN-KEELED COTTONSEDGE

Global rank: G5 Forest Service status: SENSITIVE
State rank: S1 Federal Status:

Element occurrence code: PMCYP0A0E0.007
Element occurrence type:

Survey site name: POINT PLEASANT BOG
EO rank: C
EO rank comments: LARGE, UNDISTURBED BOG, BUT NEAR HIGHWAY; SPARSE POPULATION.

County: LAKE

USGS quadrangle: CILLY CREEK

Township 024N, Range 017W, Section 19 Precision: S
Township-range comments: W2SW4SE4

Survey date: 1989-07-07 Elevation: 3200
First observation: 1989 Slope/aspect:
Last observation: 1990-06-29 Size (acres): 3

Location:
SWAN RIVER VALLEY, EAST SIDE OF STATE HWY. 83, OPPOSITE (NORTHEAST OF) POINT PLEASANT CAMPGROUND, CA. 1.0 MILE SOUTH OF SOUP CREEK.

Element occurrence data:
UNCOMMON, AND SCATTERED; OBSERVED ONLY ALONG EAST SIDE OF BOG.

General site description:
IN WET, CAREX-DOMINATED BOG, AND ALONG MARGINS OF ADJACENT SPRUCE FOREST; WITH PICEA ENGELMANNII, LOBELIA KALMII, CAREX LASIOCARPA, CAREX BUXBAUMII, ERIOPHORUM VIRIDICARINATUM, ELEOCHARIS PALUSTRIS.

Land owner/manager:
SWAN RIVER STATE FOREST

Comments:
VOUCHER - SHELLY, J.S. (1571), 1989, MONTU. ALSO JOHNSON, C. (1661), 1986, ID. PLOT #101C902001, MARIA MANTAS.

Information source:
SHELLY, J.S. 1989. FIELD SURVEYS IN SWAN RIVER VALLEY, LAKE AND MISSOULA COUNTIES, OF 5-7 AND 11-14 JULY.

July 31, 1992

MONTANA NATURAL HERITAGE PROGRAM
Species of Special Concern: Point Pleasant Fen

Scientific Name: ELEOCHARIS ROSTELLATA
Common Name: BEAKED SPIKERUSH

Global rank: G5 Forest Service status:
State rank: S2 Federal Status:

Element occurrence code: PMCYP091P0.006
Element occurrence type:

Survey site name: POINT PLEASANT FEN
EO rank:
EO rank comments:

County: LAKE

USGS quadrangle: CILLY CREEK

Township 024N, Range 017W, Section 19 Precision: S
Township-range comments: SW4SE4

Survey date:
First observation: 1990
Last observation: 1990-08-28
Elevation: 3200
Slope/aspect: LEVEL
Size (acres): 1

Location:
SWAN RIVER VALLEY, EAST OF HWY 83 ACROSS FROM POINT PLEASANT CAMPGROUND, CA. 7 MILES SOUTH OF SWAN LAKE (TOWN).

Element occurrence data:
LOCALLY ABUNDANT IN CENTER OF FEN.

General site description:
IN CENTER OF FEN WITH CAREX LIVIDA AND C. FLAVA; HABITAT CURRENTLY UNDISTURBED BUT LOGGING HAS OCCURRED NEAR SOUTHEAST CORNER OF FEN.

Land owner/manager:
SWAN RIVER STATE FOREST

Comments:

Information source:
LESICA, PETER. DIVISION OF BIOLOGICAL SCIENCES, UNIVERSITY OF MONTANA, MISSOULA, MT 59812. (5624). 1990. MONTU.

August 7, 1992

MONTANA NATURAL HERITAGE PROGRAM
Element Occurrence Record

Scientific Name: CYPRIPEDIUM CALCEOLUS VAR PARVIFLORUM
Common Name: SMALL YELLOW LADY'S-SLIPPER

Global rank: G5Q
State rank: S2

Forest Service status: SENSITIVE
Federal Status:

Element occurrence code: PMORC0Q090.014
Element occurrence type:

Survey site name: POINT PLEASANT FEN
EO rank: A
EO rank comments: VERY VIGOROUS POPULATION, HABITAT CURRENTLY UNDISTURBED.

County: LAKE

USGS quadrangle: CILLY CREEK

Township 024N, Range 017W, Section 19
Precision: S
Township-range comments: SE4

Survey date: 1990-06-11
First observation: 1990
Last observation: 1990-06-29

Elevation: 3210
Slope/aspect: LEVEL (AT BASE OF W-FACING SLOPE)
Size (acres): 2

Location:
SWAN RIVER VALLEY, EAST SIDE OF STATE HWY. 83 ACROSS FROM POINT PLEASANT CAMPGROUND, CA. 7 MILES SOUTH OF SWAN LAKE (TOWN).

Element occurrence data:
AT LEAST 300+ STEMS PRESENT; THE IMMEDIATE HABITAT IS CURRENTLY UNDISTURBED, BUT RECENT LOGGING HAS OCCURRED NEAR THE SOUTHEAST CORNER OF THE FEN.

General site description:
IN ECOTONAL MARGIN BETWEEN A FEN AND ADJACENT PICEA ENGELMANNII/EQUISETUM ARVENSE FOREST; WITH BETULA GLANDULOSA, CYPRIPEDIUM PASSERINUM, AND SALIX CANDIDA.

Land owner/manager:
SWAN RIVER STATE FOREST

Comments:
VOUCHER - SHELLY, J.S. (1611), S. CHADDE AND J. PIERCE, 1990 (MONTU).
1990: PLOT #101C90002, MARIA MANTAS.

Information source:
SHELLY, J. STEPHEN. U.S. FOREST SERVICE/TNC, REGION 1, RAWE, P.O. BOX 7669, MISSOULA, MT 59807.

July 31, 1992

MONTANA NATURAL HERITAGE PROGRAM
Species of Special Concern: Point Pleasant Fen

Scientific Name: CYPRIPEDIUM PASSERINUM
Common Name: SPARROW'S-EGG LADY'S-SLIPPER

Global rank: G4G5 Forest Service status: SENSITIVE
State rank: S2 Federal Status:

Element occurrence code: PMORC0Q0A0.013
Element occurrence type:

Survey site name: POINT PLEASANT FEN
EO rank: B
EO rank comments: HABITAT CURRENTLY UNDISTURBED, BUT POPULATION IS SMALL.

County: LAKE

USGS quadrangle: CILLY CREEK

Township 024N, Range 017W, Section 19 Precision: S
Township-range comments: SE4

Survey date: 1990-06-11 Elevation: 3210
First observation: 1990 Slope/aspect: LEVEL (AT BASE OF W-FACING SLOPE)
Last observation: 1990-06-13 Size (acres): 1

Location:
SWAN RIVER VALLEY, EAST SIDE OF STATE HWY. 83, ACROSS FROM POINT PLEASANT CAMPGROUND, CA. 7 MILES SOUTH OF SWAN LAKE (TOWN).

Element occurrence data:
CA. 30 FLOWERING STEMS AND 5-10 STERILE SHOOTS OBSERVED; THE IMMEDIATE HABITAT IS CURRENTLY UNDISTURBED, BUT RECENT LOGGING HAS OCCURRED NEAR THE SOUTHEAST CORNER OF THE FEN.

General site description:
IN ECOTONAL MARGIN BETWEEN A FEN AND ADJACENT PICEA ENGELMANNII/EQUISETUM ARVENSE FOREST; WITH BETULA GLANDULOSA, CYPRIPEDIUM CALCEOLUS, AND SALIX CANDIDA.

Land owner/manager:
SWAN RIVER STATE FOREST

Comments:
SIGHT RECORD, NO VOUCHER SPECIMEN COLLECTED. FIRST REPORT FOR LAKE COUNTY AND SWAN RIVER DRAINAGE.

Information source:
SHELLY, J. STEPHEN. U.S. FOREST SERVICE/TNC, REGION 1, RAWE, P.O. BOX 7669, MISSOULA, MT 59807.

DATA· FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Condon North & South - Hwy 83
Applicant/Owner: MDT
Investigator: Berglund Traxler

Date: 9/2/92
County: Missoula
State: Montana

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (A typical Situation)? Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: PEM/PSS
Transect ID:
Plot ID: Wetland 4

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Alnus Sinuata	SAP	FACW	9.		
2. Salix Sp.	SAP	FACW-OBL	10.		
3. Cornus Stolinifera	S	FACW	11.		
4. Typha Latifolia	H	OBL	12.		
5. Carex Sp.	H	FAC-OBL	13.		
6. Phalaris Arundinacea	H	FACW	14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC). 100%

Remarks:

HYDROLOGY

Recorded Data (Describe in Remarks):
- Stream, Lake, or Tide Gauge
- Aerial Photographs
- Other

✓ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0-7 (in.)
Depth to Free Water in Pit 0 (in.)
Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:
Primary Indicators:
- X Inundated
- X Saturated in Upper 12 inches
- Water Marks
- Drift Lines
- Sediment Deposits
- X Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- Oxidized Root Channels in Upper 12 inches
- Water-Stained Leaves
- Local Soil Survey Data
- FAC-Neutral Test
- Other (Explain in Remarks)

Remarks: Open water present associated with Rumble Creek

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Condon North & South Hwy 83
Applicant/Owner: MDT
Investigator: Berglund/Traxler

Date: 9/2/92
County: Missoula
State: Montana

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (A typical Situation)? Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: PEM/PSS
Transect ID: ___
Plot ID: Wetland 8

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Alnus Sinuata	Sap	FACW	9.		
2. Cornus Stolinifera	S	FAC-OBL	10.		
3. Carex Sp.	H	FACW	11.		
4. Agrostis Alba	H	FACW	12.		
5. Phalaris Arundinacea	H	FACW	13.		
6. Epilobium Ciliatrum	H	FACW-	14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC). 100%

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks):
  ___ Stream, Lake, or Tide Gauge
  ___ Aerial Photographs
  ___ Other
✓ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0-6 (in.)
Depth to Free Water in Pit: >16 (in.)
Depth to Saturated Soil: 0-10 (in.)

Wetland Hydrology Indicators:
Primary Indicators:
- X Inundated
- X Saturated in Upper 12 inches
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- X Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12 inches
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Condon North and South Hwy 83
Applicant/Owner: MDT
Investigator: Berglund/Traxler

Date: 9/2/92
County: Missoula
State: Montana

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (A typical Situation)? Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: PEM
Transect ID:
Plot ID: Wetland 9

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Phalaris Arundinacea	H	FACW	9.		
2. Agrostis Alba	H	FACW	10.		
3. Alnus Sinuata	S	FACW	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC). 100%

Remarks:

HYDROLOGY

Recorded Data (Describe in Remarks):
Stream, Lake, or Tide Gauge
Aerial Photographs
Other
✓ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in.)

Depth to Free Water in Pit >16 (in.)

Depth to Saturated Soil: 14 (in.)

Wetland Hydrology Indicators:
- Primary Indicators:
  - Inundated
  - Saturated in Upper 12 inches
  - Water Marks
  - Drift Lines
  - Sediment Deposits
  - X Drainage Patterns in Wetlands
- Secondary Indicators (2 or more required):
  - Oxidized Root Channels in Upper 12 inches
  - Water-Stained Leaves
  - Local Soil Survey Data
  - FAC-Neutral Test
  - Other (Explain in Remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Condon North & South - Hwy 83

Applicant/Owner: MDT

Investigator: Berglund/Traxler

Date: 9/2/92

County: Missoula

State: Montana

Do Normal Circumstances exist on the site? [✓ Yes] No

Is the site significantly disturbed (A typical Situation)? Yes [✓ No]

Is the area a potential Problem Area? Yes [✓ No]

(If needed, explain on reverse.)

Community ID: PEM

Transect ID:

Plot ID: Wetland 14

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Typha Latifolia	H	OBL	9.		
2. Plantago Major	H	FAC+	10.		
3. Carex Sp.	H	FAC-OBL	11.		
4. Equisetum Sp.	H	FAC-OBL	12.		
5. Alnus Sinuata	SAP	FACW	13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC). 100%

Remarks:

HYDROLOGY

Recorded Data (Describe in Remarks):

Stream, Lake, or Tide Gauge

Aerial Photographs

Other

✓ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in.)

Depth to Free Water in Pit 6 (in.)

Depth to Saturated Soil: Surface (in.)

Wetland Hydrology Indicators:

Primary Indicators:

- Inundated
- X Saturated in Upper 12 inches
- Water Marks
- Drift Lines
- Sediment Deposits
- X Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):

- Oxidized Root Channels in Upper 12 inches
- Water-Stained Leaves
- Local Soil Survey Data
- FAC-Neutral Test
- Other (Explain in Remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Condon North & South

Applicant/Owner: MDT

Investigator: Berglund/Traxler

Date: 9/2/92

County: Missoula

State: Montana

Do Normal Circumstances exist on the site? [✓ Yes] No

Is the site significantly disturbed (A typical Situation)? Yes [✓ No]

Is the area a potential Problem Area? Yes [✓ No]

(If needed, explain on reverse.)

Community ID: PEM

Transect ID:

Plot ID: Wetland 26

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Phalaris Arundinacea	H	FACW	9.		
2. Agrostis Alba	H	FACW	10.		
3. Carex Sp.	H	FAC-OBL	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC).

Remarks: Large emergent wet meadow west of R/W fence.

HYDROLOGY

Recorded Data (Describe in Remarks):
- Stream, Lake, or Tide Gauge
- Aerial Photographs
- Other

✓ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in.)

Depth to Free Water in Pit: >12 (in.)

Depth to Saturated Soil: >12 (in.)

Wetland Hydrology Indicators:

Primary Indicators:
- Inundated
- Saturated in Upper 12 inches
- Water Marks
- Drift Lines
- Sediment Deposits
- X Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- X Oxidized Root Channels in Upper 12 inches
- Water-Stained Leaves
- Local Soil Survey Data
- FAC-Neutral Test
- Other (Explain in Remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Condon North & South - Hwy 83
Applicant/Owner: MDT
Investigator: Berglund/Traxler

Date: 9/2/92
County: Missoula
State: Montana

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (A typical Situation)? Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: PFO/PSS/PEM
Transect ID:
Plot ID: Wetland 28

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Populas Trichocarpa	T	FACW	9. Agrostis Alba	H	FACW
2. Picea Engelmannii	T	FAC	10. Phalaris Arundinacea	H	FACW
3. Populus Trichorcarpa	SAP	FACW	11. Symphoricarpus Albus	S	FACU
4. Picea Engelmannii	SAP	FAC	12. Rosa Sp.	S	FACU
5. Alnus Sinuata	SAP	FACW	13.		
6. Alnus Sinuata	S	FACW	14.		
7. Cornus Stolinifera	S	FACW	15.		
8. Equisetum Sp.	H	FAC	16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC). 83%

Remarks: Patches of Lysichitum Americanum (OBL) present.

HYDROLOGY

Recorded Data (Describe in Remarks):
- Stream, Lake, or Tide Gauge
- Aerial Photographs
- Other

✓ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in.)
Depth to Free Water in Pit >16 (in.)
Depth to Saturated Soil: 14 (in.)

Wetland Hydrology Indicators:
- Primary Indicators:
  - Inundated
  - Saturated in Upper 12 inches
  - Water Marks
  - Drift Lines
  - X Sediment Deposits
  - X Drainage Patterns in Wetlands
- Secondary Indicators (2 or more required):
  - Oxidized Root Channels in Upper 12 inches
  - Water-Stained Leaves
  - Local Soil Survey Data
  - FAC-Neutral Test
  - Other (Explain in Remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Condon North & South - Hwy 83

Applicant/Owner: MDT

Investigator: Berglund/Reichel

Date: 10/9/92

County: Missoula

State: Montana

Do Normal Circumstances exist on the site? [✓ Yes] No
Is the site significantly disturbed (A typical Situation)? Yes [✓ No]
Is the area a potential Problem Area? Yes [✓ No]
(If needed, explain on reverse.)

Community ID: PEM/PSS

Transect ID:

Plot ID: Wetland 30

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Carex Sp.	H	FAC-OBL	9.		
2. Phalaris Arundinacea	H	FACW	10.		
3. Agrostis Alba	H	FACW	11.		
4. Salix Sp.	S/SAP	FACW-OBL	12.		
5. Mosses	F	Unk.	13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC). 80-100%

Remarks: Site is carex-dominated marsh containing various unidentified mosses.

HYDROLOGY

Recorded Data (Describe in Remarks):
- Stream, Lake, or Tide Gauge
- Aerial Photographs
- Other
- ✓ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in.)

Depth to Free Water in Pit -- (in.)

Depth to Saturated Soil: Surface (in.)

Wetland Hydrology Indicators:
- Primary Indicators:
  - Inundated
  - ✓ Saturated in Upper 12 inches
  - Water Marks
  - Drift Lines
  - Sediment Deposits
  - ✓ Drainage Patterns in Wetlands
- Secondary Indicators (2 or more required):
  - Oxidized Root Channels in Upper 12 inches
  - Water-Stained Leaves
  - Local Soil Survey Data
  - FAC-Neutral Test
  - Other (Explain in Remarks)

Remarks: No pit excavated; soil was saturated to surface.

MDT/MDFWP
WETLAND SITE EVALUATION

Date October 28, 1992 Sheet #1

Project No. F 83-1(11)31

Project Name Condon North & South

County Missoula Drainage Swan River
R. , T. , Section

Site Location Station (on plan sheet) See Table 2 and Plan Sheet

Comments (route, milepost, etc.) Palustrine Emergent wetlands: Sites 1,2,3,6,9,10,11,14,15,16,17,18,21,22,23,27

1. Classification (from Novitski, 1979)

Hydrologic Type(s) ID, 100; II A/B, 90/10
Area Approximately 0.02 to 5 acres

Vegetative Type(s) (1) ID Rooted Emergent
Dominant Species
- (a) Typha latifolia
- (b) Carex sp.
- (c) Scirpus sp.

(2) II A/B Herbaceous/Shrub
- (a) Typha latifolia Salix sp.
- (b) Carex sp. Cornus Stolinifera
- (c) Scirpus sp.

(3)
- (a)
- (b)
- (c)

2. Adjacent Supporting Habitats (Descriptive Summary)
Wetlands (type, vegetation, area, location, condition, wildlife values)
Numerous, wetlands occur throughout the project area. Scrub/shrub and forested wetlands occur in addition to the emergent sites described on this form. However, wetlands adjacent to emergent wetlands are generally themselves emergent, and range from small roadside ditches to large marshes. Wildlife values are fairly high due to interspersion with upland habitat; numerous deer occur in the area and likely use these wetlands along with adjacent riparian areas.

Uplands (vegetation type, area, location, condition, land use, erosion potential, wildlife values)

Uplands primarily consist of maintained right-of-way and coniferous forest. Several areas are grazed by cattle. Wildlife values are fairly high due to interspersion of uplands and wetlands.

3. Relative Commonness of Wetland Type in Area 1
(1) abundant (2) common (3) rare

4. Degree of Habitat Interspersion
Low = 1 Moderate = 2 High = 3

5. Vegetative Cover Characteristics of Flooded Wetlands.
(not applicable to non-flooded wetlands)

		Rating
a.	Cover occupies more than 95% of wetland	0.5
b.	Cover occupies 76-95% of wetland in a peripheral band	1.5
c.	Cover occupies 76-95% of wetland with scattered open water areas	2.5
d.	Cover occupies 26-75% of wetland occurring in dense patches or diffuse open stands	3.0
e.	Cover occupies 26-75% of wetland in a peripheral band	2.0
f.	Cover occupies 5-25% of wetland occurring in a peripheral band or diffuse open stands	1.0
g.	Cover occupies less than 5% of the wetland	0.5

6. Inundation Frequency

		Rating
a.	Temporary surface water or saturated soil	1
b.	Seasonally or intermittently flooded	2
c.	Semi-permanent or permanently flooded	3

7. Sediment Control/Load Rating Criteria

		Rating
a.	Wetland does not receive detectable amounts of sediment - the watercourse is relatively sediment-free and accumulations are not evident	1
b.	Wetland receives some sediment load but not enough to impact the plants or aquatic organisms using the site. The watercourse	

has sediment accumulations, but the water is not normally turbid 2

c. Wetland receives heavy sediment loads that has impacted the plant/animal growth/use of the site. The watercourse has large accumulations of sediment and the water is usually turbid 3

8. Water Flow Rating Criteria

a. Most of the water flows through the wetland in distinct channels or watercourses or has little flow of surface water during the year 1

b. Channels of watercourses present, but a significant portion of water is sheet flow through the wetland 2

c. Water flows across wetland uniformly and is not contained in channels or watercourses 3

9. Nutrient Retention Capabilities
(circle one ranking)

a. Non-contiguous wetland with little accumulation of organic matter 1

b. Non-contiguous wetland with organic material accumulation 2

c. Contiguous wetland with little accumulation of organic matter 2.5

d. Contiguous wetland with organic material accumulation 3

10. Relative Flood Storage Potential

a. Section 8, line a; Section 6, line a 1

b. Section 8, line b; Section 6, line b 2

c. Section 8, line c; Section 6, line c 3

11. Relative Food Chain Support Potential (Based on percent vegetative cover and estimated relative standing crop).

a. Low (vegetative cover less than 5%; non-contiguous; no accumulation of organic matter) 1

b. Moderate (vegetative cover 6-25%; contiguous or non-contiguous to other supporting habitats; some accumulation of organic material) 2

c. High (vegetative cover 26-100%; contiguous to other supporting habitats, some accumulation of organic material) 3

12. Wildlife Habitat Values (Overall) Rating (0-3)
(Based on cover, diversity, supporting habitats, and productivity)

Evaluation Group or Species

a.	Waterfowl	1
b.	Upland Game Birds	1
c.	Songbirds	2
d.	Raptors and Others	1
e.	Furbearers	1
f.	Non-furbearing small mammals	2
g.	Large Ungulates (elk, moose, deer)	2
h.	Large Carnivores (bear, cat)	1
i.	Threatened or Endangered Species	1

Evaluate utilization by waterfowl/wildlife of wetland site for nesting, rearing young, feeding or protective cover based upon the following criteria (high, medium, low).

Use by wildlife group is significant in that loss or reduction by the wildlife use would have an adverse effect on the population of the species or wildlife in the general area (township) 3

Use by wildlife group is evident or probably and loss or reduction of the wildlife use may have an adverse effect on the local wildlife population (surrounding section[s]) 2

Use by wildlife group is low or incidental in that loss or reduction of the wildlife use would have a negligible effect on the local wildlife population . 1

Use by wildlife group is non-existent at any time during any year. NOTE: Use .3 to signify occasional use 0

13. Estimate utilization by fish for spawning, nursery, feeding, or cover.

a.	Montana fishes of special concern	0
b.	Trout "brookies"	0
c.	Other Salmonids	0
d.	Non-Salmonid Game Fish (pike, bass, walleyes)	0
e.	Non-Game or Rough Fish	1

Use by fish is significant in that loss or reduction of the fish use would have an adverse effect on the population of the fish in adjacent waters 3

Use by fish is evident or probably and loss or reduction of the fish use may have an adverse effect on the population of fish in the immediate vicinity but the magnitude of the reduction would be insignificant in relation to the total population of fish in adjacent waters 2

Use by fish is low or incidental in that loss or reduction of the fish use would have negligible effect on the population of fish in the immediate vicinity 1

Use by fish never present at any time in the year 0

14. Recreational Use Potential 1 **2** 3

15. Summary of Functional Values and Overall Site Ranking

Sediment control rating	2/3
Nutrient retention rating	2.5/3
Relative flood storage rating	2/3
Relative food chain support	3/3
Wildlife Habitat Values	
Highest (Evaluation Group c,f,g)	2/3
Lowest (Evaluation Group all others)	1/3
Fisheries Habitat Values	
Highest (Evaluation Group e)	1/3
Lowest (Evaluation Group all others)	0/3
	13.5/24

JB:D:ENV:185.dlw

MDT/MDFWP
WETLAND SITE EVALUATION

Date October 28, 1992 Sheet #2

Project No. F 83-1(11)31

Project Name Condon North and South

County Missoula Drainage Swan River
R. , T. , Section

Site Location Station (on plan sheet) See Table 2 and plan sheet

Comments (route, milepost, etc.) Stream - Associated Palustrine scrub-shrub/palustrine emergent wetlands: Sites 4,5,7,8,31,32

1. Classification (from Novitski, 1979)

Hydrologic Type(s) III A/B, 20/80; II A/B, 20/80
Area Generally 0.5 to 1 acre within the R/W

Vegetative Type(s) (1) III A/B - Herbaceous/shrub
Dominant Species
(a) Salix sp., Alnus sinuata
(b) Populus tremula, Cornus stoninifera
(c) Typha latifolia, Carex sp.

(2) II A/B - Herbaceous/shrub
(a) same spp. as above
(b)
(c)

(3)
(a)
(b)
(c)

2. Adjacent Supporting Habitats (Descriptive Summary)
Wetlands (type, vegetation, area, location, condition, wildlife values)
Other wetlands in the area include emergent marshes and forested wetlands. Aside from the typical roadside cattail swales, most of these provide good habitat for local wildlife; particularly deer. Condition of adjacent wetlands is generally good.

Uplands (vegetation type, area, location, condition, land use, erosion potential, wildlife values)

Adjacent uplands include coniferous forest, grazed meadows and maintained R/W. Local sources of disturbance include logging, recreation and grazing.

3. Relative Commonness of Wetland Type in Area 2
   (1) abundant (2) common (3) rare

4. Degree of Habitat Interspersion
   Low = 1 Moderate = 2 High = 3

5. Vegetative Cover Characteristics of Flooded Wetlands.
   (not applicable to non-flooded wetlands)

		Rating
a.	Cover occupies more than 95% of wetland	0.5
b.	Cover occupies 76-95% of wetland in a peripheral band	1.5
c.	Cover occupies 76-95% of wetland with scattered open water areas	2.5
d.	Cover occupies 26-75% of wetland occurring in dense patches or diffuse open stands	3.0
e.	Cover occupies 26-75% of wetland in a peripheral band	2.0
f.	Cover occupies 5-25% of wetland occurring in a peripheral band or diffuse open stands	1.0
g.	Cover occupies less than 5% of the wetland	0.5

6. Inundation Frequency

		Rating
a.	Temporary surface water or saturated soil	1
b.	Seasonally or intermittently flooded	2
c.	Semi-permanent or permanently flooded	3

7. Sediment Control/Load Rating Criteria

		Rating
a.	Wetland does not receive detectable amounts of sediment - the watercourse is relatively sediment-free and accumulations are not evident	1
b.	Wetland receives some sediment load but not enough to impact the plants or aquatic organisms using the site. The watercourse has sediment accumulations, but the water	

is not normally turbid 2

c. Wetland receives heavy sediment loads that has impacted the plant/animal growth/use of the site. The watercourse has large accumulations of sediment and the water is usually turbid 3

8. Water Flow Rating Criteria

a. Most of the water flows through the wetland in distinct channels or watercourses or has little flow of surface water during the year 1

b. Channels of watercourses present, but a significant portion of water is sheet flow through the wetland 2

c. Water flows across wetland uniformly and is not contained in channels or watercourses 3

9. Nutrient Retention Capabilities
(circle one ranking)

a. Non-contiguous wetland with little accumulation of organic matter 1

b. Non-contiguous wetland with organic material accumulation 2

c. Contiguous wetland with little accumulation of organic matter 2.5

d. Contiguous wetland with organic material accumulation 3

10. Relative Flood Storage Potential

a. Section 8, line a; Section 6, line a 1

b. Section 8, line b; Section 6, line b 2

c. Section 8, line c; Section 6, line c 3

11. Relative Food Chain Support Potential (Based on percent vegetative cover and estimated relative standing crop).

a. Low (vegetative cover less than 5%; non-contiguous; no accumulation of organic matter) 1

b. Moderate (vegetative cover 6-25%; contiguous or non-contiguous to other supporting habitats; some accumulation of organic material) 2

c. High (vegetative cover 26-100%; contiguous to other supporting habitats, some accumulation of organic material) 3

12. Wildlife Habitat Values (Overall) Rating (0-3)
(Based on cover, diversity, supporting habitats, and productivity)

Evaluation Group or Species	
a. Waterfowl	1
b. Upland Game Birds	2
c. Songbirds	2
d. Raptors and Others	1
e. Furbearers	2
f. Non-furbearing small mammals	2
g. Large Ungulates (elk, moose, deer)	2
h. Large Carnivores (bear, cat)	2
i. Threatened or Endangered Species	1

Evaluate utilization by waterfowl/wildlife of wetland site for nesting, rearing young, feeding or protective cover based upon the following criteria (high, medium, low).

Use by wildlife group is significant in that loss or reduction by the wildlife use would have an adverse effect on the population of the species or wildlife in the general area (township) 3

Use by wildlife group is evident or probably and loss or reduction of the wildlife use may have an adverse effect on the local wildlife population (surrounding section[s]) 2

Use by wildlife group is low or incidental in that loss or reduction of the wildlife use would have a negligible effect on the local wildlife population . 1

Use by wildlife group is non-existent at any time during any year. NOTE: Use .3 to signify occasional use 0

13. Estimate utilization by fish for spawning, nursery, feeding, or cover.

a.	Montana fishes of special concern	3
b.	Trout "brookies"	2
c.	Other Salmonids	1
d.	Non-Salmonid Game Fish (pike, bass, walleyes)	1
e.	Non-Game or Rough Fish	2

Use by fish is significant in that loss or reduction of the fish use would have an adverse effect on the population of the fish in adjacent waters 3

Use by fish is evident or probably and loss or reduction of the fish use may have an adverse effect on the population of fish in the immediate vicinity but the magnitude of the reduction would be insignificant in relation to the total population of fish in adjacent waters 2

Use by fish is low or incidental in that loss or reduction of the fish use would have negligible effect on the population of fish in the immediate vicinity 1

Use by fish never present at any time in the year 0

14. Recreational Use Potential 1 2 3

15. Summary of Functional Values and Overall Site Ranking

Sediment control rating	2/3
Nutrient retention rating	2.5/3
Relative flood storage rating	2/3
Relative food chain support	3/3
Wildlife Habitat Values	
Highest (Evaluation Group b,c,e-h)	2/3
Lowest (Evaluation Group a,d,i)	1/3
Fisheries Habitat Values	
Highest (Evaluation Group a)	3/3
Lowest (Evaluation Group c,d)	1/3
	16.5/24

JB:D:ENV:186.dlw

MDT/MDFWP
WETLAND SITE EVALUATION

Date October 28, 1992 Sheet #3

Project No. F 83-1(11)31

Project Name Condon North and South

County Missoula Drainage Swan River
R. , T. , Section

Site Location Station (on plan sheet) See Table 2 and plan sheet

Comments (route, milepost, etc.) Palustrine scrub-shrub/palustrine emergent wetlands not associated with streams: sites 12,13,19,20,24, and 25

1. Classification (from Novitski, 1979)

Hydrologic Type(s) II A/B, 60/40
Area Range from 0.2 to >5 acres

Vegetative Type(s) (1) II A/B Herbaceous/shrub
Dominant Species
(a) Salix sp., Alnus sinuata
(b) Populus tremula, Cornus stolinifera
(c) Typha latifolia, Carex sp., Phalaris arundinacea

(2)
(a)
(b)
(c)

(3)
(a)
(b)
(c)

2. Adjacent Supporting Habitats (Descriptive Summary)
Wetlands (type, vegetation, area, location, condition, wildlife values)
Other wetlands in the area include emergent marshes and forested wetlands. Aside from the typical roadside cattail swales, most of these provide good habitat for local wildlife; particularly deer. Condition of adjacent wetlands is generally good.

Uplands (vegetation type, area, location, condition, land use, erosion potential, wildlife values)

Adjacent uplands include coniferous forest, grazed meadows and maintained R/W. Local sources of disturbance include logging, recreation and grazing.

3. Relative Commonness of Wetland Type in Area 2
(1) abundant (2) common (3) rare

4. Degree of Habitat Interspersion
Low = 1 Moderate = 2 High = 3

5. Vegetative Cover Characteristics of Flooded Wetlands. (not applicable to non-flooded wetlands)

		Rating
a.	Cover occupies more than 95% of wetland	0.5
b.	Cover occupies 76-95% of wetland in a peripheral band	1.5
c.	Cover occupies 76-95% of wetland with scattered open water areas	2.5
d.	Cover occupies 26-75% of wetland occurring in dense patches or diffuse open stands	3.0
e.	Cover occupies 26-75% of wetland in a peripheral band	2.0
f.	Cover occupies 5-25% of wetland occurring in a peripheral band or diffuse open stands	1.0
g.	Cover occupies less than 5% of the wetland	0.5

6. Inundation Frequency

		Rating
a.	Temporary surface water or saturated soil	1
b.	Seasonally or intermittently flooded	2
c.	Semi-permanent or permanently flooded	3

7. Sediment Control/Load Rating Criteria

		Rating
a.	Wetland does not receive detectable amounts of sediment - the watercourse is relatively sediment-free and accumulations are not evident	1
b.	Wetland receives some sediment load but not enough to impact the plants or aquatic organisms using the site. The watercourse has sediment accumulations, but the water	

is not normally turbid 2

c. Wetland receives heavy sediment loads that has impacted the plant/animal growth/use of the site. The watercourse has large accumulations of sediment and the water is usually turbid 3

8. Water Flow Rating Criteria

a. Most of the water flows through the wetland in distinct channels or watercourses or has little flow of surface water during the year 1

b. Channels of watercourses present, but a significant portion of water is sheet flow through the wetland 2

c. Water flows across wetland uniformly and is not contained in channels or watercourses 3

9. Nutrient Retention Capabilities
(circle one ranking)

a. Non-contiguous wetland with little accumulation of organic matter 1

b. Non-contiguous wetland with organic material accumulation 2

c. Contiguous wetland with little accumulation of organic matter 2.5

d. Contiguous wetland with organic material accumulation 3

10. Relative Flood Storage Potential

a. Section 8, line a; Section 6, line a 1

b. Section 8, line b; Section 6, line b 2

c. Section 8, line c; Section 6, line c 3

11. Relative Food Chain Support Potential (Based on percent vegetative cover and estimated relative standing crop).

a. Low (vegetative cover less than 5%; non-contiguous; no accumulation of organic matter) 1

b. Moderate (vegetative cover 6-25%; contiguous or non-contiguous to other supporting habitats; some accumulation of organic material) 2

c. High (vegetative cover 26-100%; contiguous to other supporting habitats, some accumulation of organic material) 3

12. Wildlife Habitat Values (Overall) Rating (0-3)
(Based on cover, diversity, supporting habitats, and productivity)

Evaluation Group or Species
- a. Waterfowl 1
- b. Upland Game Birds 2
- c. Songbirds 2
- d. Raptors and Others 1
- e. Furbearers 1
- f. Non-furbearing small mammals 2
- g. Large Ungulates (elk, moose, deer) 2
- h. Large Carnivores (bear, cat) 1
- i. Threatened or Endangered Species 1

Evaluate utilization by waterfowl/wildlife of wetland site for nesting, rearing young, feeding or protective cover based upon the following criteria (high, medium, low).

Use by wildlife group is significant in that loss or reduction by the wildlife use would have an adverse effect on the population of the species or wildlife in the general area (township) 3

Use by wildlife group is evident or probably and loss or reduction of the wildlife use may have an adverse effect on the local wildlife population (surrounding section[s]) 2

Use by wildlife group is low or incidental in that loss or reduction of the wildlife use would have a negligible effect on the local wildlife population . 1

Use by wildlife group is non-existent at any time during any year. NOTE: Use .3 to signify occasional use 0

13. Estimate utilization by fish for spawning, nursery, feeding, or cover.

a.	Montana fishes of special concern	0
b.	Trout "brookies"	0
c.	Other Salmonids	0
d.	Non-Salmonid Game Fish (pike, bass, walleyes)	0
e.	Non-Game or Rough Fish	1

Use by fish is significant in that loss or reduction of the fish use would have an adverse effect on the population of the fish in adjacent waters 3

Use by fish is evident or probably and loss or reduction of the fish use may have an adverse effect on the population of fish in the immediate vicinity but the magnitude of the reduction would be insignificant in relation to the total population of fish in adjacent waters 2

Use by fish is low or incidental in that loss or reduction of the fish use would have negligible effect on the population of fish in the immediate vicinity 1

Use by fish never present at any time in the year 0

14. Recreational Use Potential .... 1 / 2 / 3

15. Summary of Functional Values and Overall Site Ranking

Sediment control rating	2/3
Nutrient retention rating	2/3
Relative flood storage rating	2/3
Relative food chain support	3/3
Wildlife Habitat Values	
Highest (Evaluation Group b,c,f,g)	2/3
Lowest (Evaluation Group all others)	1/3
Fisheries Habitat Values	
Highest (Evaluation Group c)	1/3
Lowest (Evaluation Group all others)	0/3
	13/24

JB:D:ENV:187.dlw

MDT/MDFWP
WETLAND SITE EVALUATION

Date October 28, 1992 Sheet #4

Project No. F 83-1(11)31

Project Name Condon North and South

County Missoula Drainage Swan River
R. , T. , Section

Site Location Station (on plan sheet) 26: 1960+40-1963+70, 33: 1877+25-1885+00

Comments (route, milepost, etc.) Palustrine emergent wet meadows: sites 26 and 33 . .

1. Classification (from Novitski, 1979)

Hydrologic Type(s) II A
Area >5 acres

Vegetative Type(s) (1) II A, Herbaceous
Dominant Species (a) Phalaris arundinacea
(b) Carex sp.
(c) Glyceria sp.
(2)
(a)
(b)
(c)
(3)
(a)
(b)
(c)

2. Adjacent Supporting Habitats (Descriptive Summary)
Wetlands (type, vegetation, area, location, condition, wildlife values)
Wetland 26, a grazed meadow surrounded by forest, is fairly isolated from other wetlands in the area. Wetland 33 may be adjacent to Holland Creek several hundred feet east of the R/W. Wildlife value of Holland Creek is high.

Uplands (vegetation type, area, location, condition, land use, erosion potential, wildlife values)
Both wetlands are bordered by upland forest and upland meadow. Grazing is occurring on both sites. Wildlife values are fairly high due to general abundance of habitat interspersion in area.

3. Relative Commonness of Wetland Type in Area 2
(1) abundant (2) common (3) rare

4. Degree of Habitat Interspersion
Low = 1 Moderate = 2 High = 3

5. Vegetative Cover Characteristics of Flooded Wetlands.
(not applicable to non-flooded wetlands)

		Rating
a.	Cover occupies more than 95% of wetland	0.5
b.	Cover occupies 76-95% of wetland in a peripheral band	1.5
c.	Cover occupies 76-95% of wetland with scattered open water areas	2.5
d.	Cover occupies 26-75% of wetland occurring in dense patches or diffuse open stands	3.0
e.	Cover occupies 26-75% of wetland in a peripheral band	2.0
f.	Cover occupies 5-25% of wetland occurring in a peripheral band or diffuse open stands	1.0
g.	Cover occupies less than 5% of the wetland	0.5

6. Inundation Frequency

		Rating
a.	Temporary surface water or saturated soil	1
b.	Seasonally or intermittently flooded	2
c.	Semi-permanent or permanently flooded	3

7. Sediment Control/Load Rating Criteria

		Rating
a.	Wetland does not receive detectable amounts of sediment - the watercourse is relatively sediment-free and accumulations are not evident	1
b.	Wetland receives some sediment load but not enough to impact the plants or aquatic organisms using the site. The watercourse has sediment accumulations, but the water is not normally turbid	2
c.	Wetland receives heavy sediment loads that has impacted the plant/animal growth/use of	

the site. The watercourse has large accumulations of sediment and the water is usually turbid 3

8. Water Flow Rating Criteria

a. Most of the water flows through the wetland in distinct channels or watercourses or has little flow of surface water during the year 1

b. Channels of watercourses present, but a significant portion of water is sheet flow through the wetland 2

c. Water flows across wetland uniformly and is not contained in channels or watercourses 3

9. Nutrient Retention Capabilities (circle one ranking)

a. Non-contiguous wetland with little accumulation of organic matter 1

b. Non-contiguous wetland with organic material accumulation 2

c. Contiguous wetland with little accumulation of organic matter 2.5

d. Contiguous wetland with organic material accumulation 3

10. Relative Flood Storage Potential

a. Section 8, line a; Section 6, line a .... __1__

b. Section 8, line b; Section 6, line b .... __2__

c. Section 8, line c; Section 6, line c .... __3__

11. Relative Food Chain Support Potential (Based on percent vegetative cover and estimated relative standing crop).

a. Low (vegetative cover less than 5%; non-contiguous; no accumulation of organic matter) .... __1__

b. Moderate (vegetative cover 6-25%; contiguous or non-contiguous to other supporting habitats; some accumulation of organic material) .... __2__

c. High (vegetative cover 26-100%; contiguous to other supporting habitats, some accumulation of organic material) 3

12. Wildlife Habitat Values (Overall) Rating (0-3)
(Based on cover, diversity, supporting habitats, and productivity)

Evaluation Group or Species	
a. Waterfowl	1
b. Upland Game Birds	2
c. Songbirds	1
d. Raptors and Others	2
e. Furbearers	1
f. Non-furbearing small mammals	2
g. Large Ungulates (elk, moose, deer)	2
h. Large Carnivores (bear, cat)	1
i. Threatened or Endangered Species	1

Evaluate utilization by waterfowl/wildlife of wetland site for nesting, rearing young, feeding or protective cover based upon the following criteria (high, medium, low).

Use by wildlife group is significant in that loss or reduction by the wildlife use would have an adverse effect on the population of the species or wildlife in the general area (township) 3

Use by wildlife group is evident or probably and loss or reduction of the wildlife use may have an adverse effect on the local wildlife population (surrounding section[s]) 2

Use by wildlife group is low or incidental in that loss or reduction of the wildlife use would have a negligible effect on the local wildlife population . 1

Use by wildlife group is non-existent at any time during any year. NOTE: Use .3 to signify occasional use 0

13. Estimate utilization by fish for spawning, nursery, feeding, or cover.

a. Montana fishes of special concern	0
b. Trout "brookies"	0
c. Other Salmonids	0

d. Non-Salmonid Game Fish (pike, bass, walleyes) 0

e. Non-Game or Rough Fish 0

Use by fish is significant in that loss or reduction of the fish use would have an adverse effect on the population of the fish in adjacent waters 3

Use by fish is evident or probably and loss or reduction of the fish use may have an adverse effect on the population of fish in the immediate vicinity but the magnitude of the reduction would be insignificant in relation to the total population of fish in adjacent waters 2

Use by fish is low or incidental in that loss or reduction of the fish use would have negligible effect on the population of fish in the immediate vicinity 1

Use by fish never present at any time in the year 0

14. Recreational Use Potential .... 1 / 2 / 3

15. Summary of Functional Values and Overall Site Ranking

Sediment control rating 2/3
Nutrient retention rating 2/3
Relative flood storage rating 2/3
Relative food chain support 2/3

Wildlife Habitat Values
    Highest (Evaluation Group b,d,f,g) 2/3
    Lowest (Evaluation Group all others) 1/3

Fisheries Habitat Values
    Highest (Evaluation Group all) 0/3
    Lowest (Evaluation Group all) 0/3

11/24

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MDT/MDFWP
WETLAND SITE EVALUATION

Date October 28, 1992 Sheet #5

Project No. F 83-1(11)31

Project Name Condon North and South

County Missoula Drainage Swan River
R. , T. , Section

Site Location Station (on plan sheet) 28: 2015+75-2021+50, 29: 2018+00-2019+25

Comments (route, milepost, etc.) Palustrine forested wetlands: sites 28 and 29 (associated with Pierce Creek)

1. Classification (from Novitski, 1979)

Hydrologic Type(s) III C/B/A 80/10/10
Area 28: 0.5 to 1 acre 29: 0.1 acre

Vegetative Type(s) (1) III C/B/A forested/shrub/herbaceous
Dominant Species
(a) Populus trichocarpa, Alnus sinuata
(b) Picea engelmmannii, Cornus stolinifera
(c) Rosa sp., Phalaris arundinacea, Agrostis alba

(2)
(a)
(b)
(c)

(3)
(a)
(b)
(c)

2. Adjacent Supporting Habitats (Descriptive Summary)
Wetlands (type, vegetation, area, location, condition, wildlife values)
Adjacent wetlands are those associated with Pierce Creek upstream and downstream of the two subject sites. There are also forested wetlands. Wildlife values are relatively high despite the proximity of nearby homes.

Uplands (vegetation type, area, location, condition, land use, erosion potential, wildlife values)

Adjacent uplands are primarily dominated by Douglas fir forest, which provides high value for wintering deer in the area.

3. Relative Commonness of Wetland Type in Area 3
(1) abundant (2) common (3) rare

4. Degree of Habitat Interspersion
Low = 1 Moderate = 2 High = 3

5. Vegetative Cover Characteristics of Flooded Wetlands.
(not applicable to non-flooded wetlands)

		Rating
a.	Cover occupies more than 95% of wetland	0.5
b.	Cover occupies 76-95% of wetland in a peripheral band	1.5
c.	Cover occupies 76-95% of wetland with scattered open water areas	2.5
d.	Cover occupies 26-75% of wetland occurring in dense patches or diffuse open stands	3.0
e.	Cover occupies 26-75% of wetland in a peripheral band	2.0
f.	Cover occupies 5-25% of wetland occurring in a peripheral band or diffuse open stands	1.0
g.	Cover occupies less than 5% of the wetland	0.5

6. Inundation Frequency

		Rating
a.	Temporary surface water or saturated soil	1
b.	Seasonally or intermittently flooded	2
c.	Semi-permanent or permanently flooded	3

7. Sediment Control/Load Rating Criteria

		Rating
a.	Wetland does not receive detectable amounts of sediment - the watercourse is relatively sediment-free and accumulations are not evident	1
b.	Wetland receives some sediment load but not enough to impact the plants or aquatic organisms using the site. The watercourse has sediment accumulations, but the water	

is not normally turbid 2

c. Wetland receives heavy sediment loads that has impacted the plant/animal growth/use of the site. The watercourse has large accumulations of sediment and the water is usually turbid 3

8. Water Flow Rating Criteria

a. Most of the water flows through the wetland in distinct channels or watercourses or has little flow of surface water during the year 1

b. Channels of watercourses present, but a significant portion of water is sheet flow through the wetland 2

c. Water flows across wetland uniformly and is not contained in channels or watercourses 3

9. Nutrient Retention Capabilities
(circle one ranking)

a. Non-contiguous wetland with little accumulation of organic matter 1

b. Non-contiguous wetland with organic material accumulation 2

c. Contiguous wetland with little accumulation of organic matter 2.5

d. Contiguous wetland with organic material accumulation 3

10. Relative Flood Storage Potential

a. Section 8, line a; Section 6, line a 1

b. Section 8, line b; Section 6, line b 2

c. Section 8, line c; Section 6, line c 3

11. Relative Food Chain Support Potential (Based on percent vegetative cover and estimated relative standing crop).

a. Low (vegetative cover less than 5%; non-contiguous; no accumulation of organic matter) 1

b. Moderate (vegetative cover 6-25%; contiguous or non-contiguous to other supporting habitats; some accumulation of organic material) 2

c. High (vegetative cover 26-100%; contiguous to other supporting habitats, some accumulation of organic material) 3

12. Wildlife Habitat Values (Overall) Rating (0-3)
(Based on cover, diversity, supporting habitats, and productivity)

Evaluation Group or Species
a. Waterfowl 1
b. Upland Game Birds 2
c. Songbirds 2
d. Raptors and Others 1
e. Furbearers 2
f. Non-furbearing small mammals 2
g. Large Ungulates (elk, moose, deer) 2
h. Large Carnivores (bear, cat) 1
i. Threatened or Endangered Species 1

Evaluate utilization by waterfowl/wildlife of wetland site for nesting, rearing young, feeding or protective cover based upon the following criteria (high, medium, low).

Use by wildlife group is significant in that loss or reduction by the wildlife use would have an adverse effect on the population of the species or wildlife in the general area (township) 3

Use by wildlife group is evident or probably and loss or reduction of the wildlife use may have an adverse effect on the local wildlife population (surrounding section[s]) 2

Use by wildlife group is low or incidental in that loss or reduction of the wildlife use would have a negligible effect on the local wildlife population . 1

Use by wildlife group is non-existent at any time during any year. NOTE: Use .3 to signify occasional use 0

13. Estimate utilization by fish for spawning, nursery, feeding, or cover.

a.	Montana fishes of special concern	3
b.	Trout "brookies"	1
c.	Other Salmonids	1
d.	Non-Salmonid Game Fish (pike, bass, walleyes)	0
e.	Non-Game or Rough Fish	2

Use by fish is significant in that loss or reduction of the fish use would have an adverse effect on the population of the fish in adjacent waters 3

Use by fish is evident or probably and loss or reduction of the fish use may have an adverse effect on the population of fish in the immediate vicinity but the magnitude of the reduction would be insignificant in relation to the total population of fish in adjacent waters 2

Use by fish is low or incidental in that loss or reduction of the fish use would have negligible effect on the population of fish in the immediate vicinity 1

Use by fish never present at any time in the year 0

14. Recreational Use Potential .... 1 / 2 / 3

15. Summary of Functional Values and Overall Site Ranking

Sediment control rating	2/3
Nutrient retention rating	2.5/3
Relative flood storage rating	1/3
Relative food chain support	3/3
Wildlife Habitat Values	
Highest (Evaluation Group b,c,e,g)	2/3
Lowest (Evaluation Group a,d,h,i)	1/3
Fisheries Habitat Values	
Highest (Evaluation Group a)	3/3
Lowest (Evaluation Group d)	0/3
	14.5/24

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